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ELECTRICITY AND ANIMALS

WILLIAM S. STEVENS, M.R.C.V.S.

Communications have from time to time appeared in the Veterinary Press dealing with electricity and its physiological effect on animals. It does not seem, however, to be generally recognised that the application of electric currents has a markedly different effect on animals, especially the larger ones, from that on man. Rather, the view apparently held by writers has been that the reactions to electricity are about equal in all cases. However, the difference is considerable.

ELECTRIC LEAKAGES

This matter has, during the last few years, been brought into particular prominence on the Continent through leakages from high and low voltage cables and motors when earthed in the usual way.

Most of us are familiar with the new pylons carrying, or about to carry, electric current, not only to large towns, but also to distribute their burdens in country districts, including farms. On the Continent of Europe this system of distribution has been in use for some years, and considerable experience of the result of leakage from electric motors, armoured cable coverings, pylons, etc., has been put on record. The effects of these leakages were rather remarkable in that even very low voltages, which were received unnoticed by human beings, markedly affected animals. Low potentials of 20 to 24 volts were definitely dangerous, and leakages of even 10 volts have killed cattle when they have occurred.

A short while back the largest electricity supply undertaking in Germany—incidentally the largest in Europe—carried out considerable research into the matter of continued accidents to cattle throughout its area of supply. These occurrences were threatening to become an obstacle to the continued electrical development of rural areas; leakages were taking place from metal casings, switches and large motors, especially when so-called earthings (somewhat similar to a wireless earthing) were being used.

It was thought at one time that the method of earthing, merely by connecting a wire with a deeply buried metal plate in the earth, or a connection with a water pipe was sufficient to ensure safety in dealing with these comparatively low voltages or volumes of current. This, however, is not a safe method of dealing with these currents in country districts, and a simple application of Ohm's law to the earth circuit is quite sufficient to expose the fallacy of assuming that such a conducted current is dead, after being dealt with in this manner.

Earthing resistances cannot be got down to below 10 ohms except at some material expense, and even under good conditions it is said that 30 to 50 ohms is the figure that rules in most cases.

Some alarming results have been experienced on the Continent—for instance, in connection with an electrical installation on a large farm, where the wiring was installed in heavy steel conduits clamped to the framework and earthed in the ordinary way. The installation passed the usual tests on completion, but later was found to be faultily earthed. One night the cattle suddenly became wild, twelve were killed outright and several others eventually died from injuries. Still more remarkable was an occurrence on another farm. High earth resistance caused the death of six cows that were not in connection with any steel framing or any part of the building, but were walking about loose.

An interesting point in connection with these very low voltage leakages is their cumulative effect. A short exposure to very low voltage does not seem markedly to affect animals, but death or damage may follow after long contact, and may possibly be attributed to some other cause. Connected with this problem, certain unusual conditions arise when circuits are earthed to plates buried in the earth—because the zero condition is frequently unattained, especially in dry weather, and the earth resistance may be as much as 25 to 50 ohms, and in some cases nearly 100 ohms. There is also the factor of the potential gradient in these earthed lines to be considered. In one case a thoroughbred horse was killed by coming in contact with a neutralised line.

It therefore behoves veterinary practitioners to bear these leakage factors in mind, when any unascertained death or damage to animals is met with in our country districts electrically supplied, and particularly the fact that alternating currents are more destructive than direct currents.

I have used low potential currents therapeutically from coils, applied to the muscles *via* the skin of cattle and dogs by means of weak voltage dry cells in the treatment of cases of inability and paralysis, with beneficial results.

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and although the number of cases does not warrant any definite conclusion, I believe the influence of electrical currents on animals should form the basis of further research work.

ELECTRIC STUNNING

Having taken an interest in so-called humane killers, both from a professional and sentimental point of view, since my first introduction to meat inspection (even to the extent of having designed and produced a special pattern killer*) and also dabbled in electricity since a youth, I was pleased to take advantage, in the early part of this year, of an opportunity made available by the General Radiological and Surgical Apparatus Company, Ltd., to inspect the action of their electrolethaler at the slaughterhouse of the London Co-operative Society, Leytonstone. By the courtesy of Mr. R. Frenchman, representing the G.R. Company, I made an independent examination of the instrument in action, which had recently been installed, and was in general routine use, and learned that this was the only instrument used by them for slaughtering pigs.

On entering the slaughterhouse I was impressed by the total absence of the noises usually associated with the porcine race, which are emitted on the slightest pretext. The instrument used for stunning is painless and noiseless; in fact, stunning is hardly the word to use in connection with this electrolethaler as it has a distinct anæsthetic action, and I was informed that the inventor, Professor Müller, of Munich, had tested it on himself.

The apparatus consists of a pair of large metal scissors or tongs (Fig. 1), the top of which is insulated and contains a switch; the lower part is bare metal, and the two sides of the head are gently grasped between the arms.

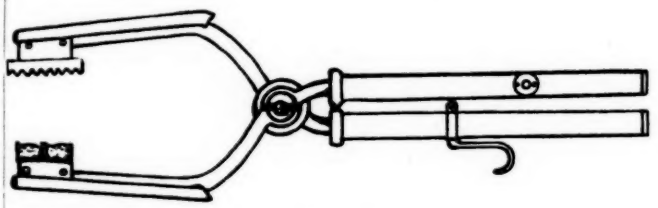

Fig. 1.

Most people who read about the American electric lethal chair, and have seen clonic spasms in muscles when electric currents are passed from one part of the body to another, accompanied with writhing motions, should disassociate these ideas *entirely* from their minds when considering the electrolethaler (I wish it had another name). Imagine a pig on a hot day, after a hearty meal, strolling about in the sun, and then gently letting himself down on his side to sleep: this latter effort simulates the one he makes after the application of this instrument, as I saw it at the slaughterhouse—the pig just reclines down on his side, immediately, and that is the remarkable effect directly the instrument makes contact.

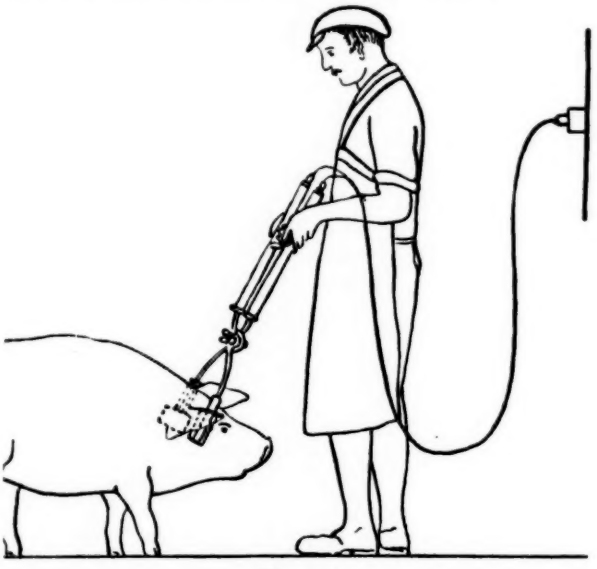

Fig. 2.

The pigs (Fig. 2), anæsthetised with this instrument, were held in head contact for about seven seconds: the tongs were then removed and the hind legs shackled, hoisted, and the pig stuck without any noise or apparent feeling. One pig was allowed, at my request, before being hoisted or stuck, to come round. He got up again after seven seconds, still slightly sleepy. He was then anæsthetised again, and emitted no sound whatever. What the actual paralysing effect this particular kind of current (as this, I understand, is the novelty) has on a live brain, it is difficult to say. This method was originally experimented with by Professor Leduc, of Nantes, some 30 years ago.

* In connection with humane killers, my modification of the "Greener" pattern may interest some members, especially those who have to use the killer in crowded places, such as at race meetings. Instead of the barrel being drilled to hold the usual bullet, the barrel of this killer is drilled large enough to take a small sporting cartridge of the scatter gun type, such as are used for killing rabbits. This modification has the two following advantages:—

Firstly, owing to the small size of the individual shots, they quickly lose their momentum and none can escape outside the skull to damage a bystander.

The second advantage is that cartridges can be purchased from any sporting cartridge dealer, whereas the other bullets must be obtained specially from the makers; and there are regulations as to carriage, etc. Messrs. Greener made this pattern for me, and I think they simply drilled one of their usual pattern barrels with a wider bore. This killer can also be used safely for cats and dogs.

The damage done to the skull of large animals by this cartridge is far greater than when the usual bullet is used, contrary to what Messrs. Greener's London Manager anticipated.

W. S. S.

It has been proved, so I am informed, that this electric current has the effect of arresting the blood supply, by collapsing the blood vessels. This has been proved by passing the current through a cock's head, when the blood leaves the comb, leaving it a grey colour instead of red. The anæsthetising effect, however, cannot wholly be due to this, as the effect is instantaneous, whereas even after the total arrest of the supply of blood, one would expect a few seconds to pass before the brain was affected, if this was the only cause.

Whatever the actual physiological effect on the brain may be, the practical effect, as far as painless slaughter is concerned, is apparently almost ideal. I examined a number of carcasses and in none could I see any evidence of extravasation of the blood from the vessels, the so-called blood splashing. The brain, of course, is undamaged. I am told that there is a rise of blood pressure during the passage of the electric current, and this may account for the successful bleeding, which the agents claim is more nearly complete than when no stunning whatever is used.

Before the installation of the electric method in this slaughterhouse, pigs were being slaughtered by the Cash's captive bolt instrument. The superintendent of the slaughterhouse told me that he preferred the electric stunner, because there was no noise of any kind and less experienced hands could use the electrolethaler without fear of damage; and further, they expected to pay for their installation in two years by the saving of cartridge costs, etc.

I did not see the lethaler used for cattle, and at present I understand it is not being so used. However, I cannot see why it should not be used for them and also the smaller animals. The electric current comes from the mains and is passed through a transformer before being emitted, I was informed, at 60/80 volts. It is quite safe to use. One can—and I myself did—place a hand across the two terminals that come in contact with the head (I am fairly sensitive to electric currents), but beyond the feeling of a slight tingling between the two points touched, nothing else was noticed.

It is claimed that such operations as the castration of pigs and the speying of sows can be successfully carried out under these anæthetising conditions.

Having in mind these ascertained facts as set out in the fore part of this article, *e.g.*, the result of mild currents on animals, the effects of the so-called electrolethaler are not so remarkable as at first they might appear. Personally, I believe any ordinary low potential and suitably modified current would have a somewhat similar effect, and veterinary research could profitably be directed to this field for further investigation.

EFFECT OF LIGHTNING

Some communications on this subject have been published in this journal earlier in the year, and in view of what is known of the effect of mild electric currents on animals (so weak that they would not be noticeable by human beings) the question of the effect of lightning shock on animals requires further consideration.

I have already pointed out that the majority of cases of so-called lightning stroke are caused by minor induced currents, and that it is quite possible that no very marked clinical manifestations of damage done by the lightning would be found on some of the animals affected, or at any rate on surrounding objects. Still weaker currents than those I visualised at the time have apparently a marked effect on animals. On the other hand, what can happen when a comparatively strong electric current hits an object on this earth, such as a tree, is well exampled by a contributor to *The Times* of July 20th this year. He says:—

> "In a wood nearby, a particularly well grown oak tree, some 40 feet high and 3 feet in diameter, was blown to bits. It was not merely split to the ground, but the whole of the top had gone, the body of the tree was scattered for thirty yards around, and strips of perfectly sound oak were torn to ribbons. *There were no sulphurous fumes*, and no signs of burning. It was as if the tree itself exploded all over at once. . . ."

Note should be taken that the writer of this contributed article in *The Times* features that no sulphurous fumes or burning were detected.

Three hundred sheep have been killed in this country and even more in South Africa by electric storm discharges, but even then I doubt if these strokes are caused by anything more than secondary currents.

Effects of lightning on animals could be recorded with advantage to research on this subject.

The early diagnosis of cancer by a serum reaction discovered by Fuchs of Berlin has been announced; according to the discoverer fibrin in the blood of a non-cancerous patient is broken down or digested by the blood from a cancerous patient. Although special apparatus and special training is required in making the test it may be perfected so that it can be more generally used.—*Science.*

* * * * *

"It is hoped that the recently formed South Devon Bull Recording scheme will succeed in its object of preventing the premature slaughter of proved bulls. By supplying particulars of the official records of milking strains it is hoped it will recover the ground lost by the South Devon Society during the last decade." This is a sentence from the 1932 report of the Council of the South Devon Herd Book Society just issued from 6, Princess Square, Plymouth.

THE VETERINARY PROFESSION IN SOUTH AFRICA

Pre-Union Police Forces: (c) Transvaal

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Onderstepoort, South Africa

Police Forces: Transvaal[1]

The police forces which possessed their own veterinary officers were: (I) Transvaal Constabulary, (II) Transvaal Town Police, and (III) South African Constabulary.

(I) TRANSVAAL CONSTABULARY

Shortly after the occupation of the Rand and Pretoria by the British Forces in June, 1900, the above Force was formed for policing those areas. The Veterinary Officer was Charles Jesse Sanderson, who held the rank of Veterinary-Captain. Prior to this appointment Sanderson had been attached to the New Zealand Mounted Rifles.[2]

(II) TRANSVAAL TOWN POLICE

From February, 1902, the Transvaal Constabulary was replaced by the Transvaal Town Police, which controlled the Johannesburg and Pretoria districts, whereas the South African Constabulary was responsible for the country areas. According to the Civil Service List of 1904, E. B. Kellett was appointed on November 1st, 1902, as veterinary surgeon (obviously part-time) at £300 p.a.

After the granting of Responsible Government, the T.T.P. and S.A.C. were disbanded, the Transvaal Police being established from June, 1908.[3] Although possessing approximately 1,600 animals the authorities did not employ a police V.O., but relied on assistance from the Civil Veterinary Department. The authorised daily ration for the police animals was as follows:—

Horses	14 lbs.	oat-hay and 1 oz. salt.
Riding mules ...	12 lbs.	„ „ ½ „ „
Transport mules	10 lbs.	„ „ „ „ „
Donkeys ...	5 lbs.	„ „ „ „ „
Oxen	7 lbs.	„ „ „ „ „

Mealies, manna, bran, or any other suitable fodder might be substituted for a portion of the oat-hay ration on a basis of equivalent money value (*Gazette*, July 29th, 1908).

The Transvaal Police ceased to exist on March 31st, 1913.

(III) SOUTH AFRICAN CONSTABULARY[4]

This force was organised by Major-General Baden-Powell, who had been instructed by Lord Roberts to provide a police force for the Transvaal, Swaziland, and Orange River Colony after the main operations of the 2nd Boer War were over. The Constabulary may be said to date back to October 22nd, 1900, when, under Proclamation 24, the force was raised. Until the Peace of Vereeniging (May 31st, 1902), however, the duties were of a military character. In November, 1902, the strength was reduced from 10,000 men to 6,000 men, the normal peace establishment, which was organised in three[5] Transvaal and one Orange River Colony Divisions. On July 1st, 1906, further reorganisation took place, there being one Transvaal and one Orange River Colony Divisions, a depôt in each Colony and " five mobile columns (of about 80 mounted men) were retained as a reserve." Altogether the strength had suffered by this change a reduction of approximately 50 per cent., including the abolition of the Medical, Veterinary, and Works Sections. Under Responsible Government, further reductions took place, and from April 1st, 1907, Swaziland provided her own police force. On the Transvaal and Orange River Colony forming their own separate police forces,[6] the S.A.C. ceased to exist on June 2nd, 1908, after a brief existence of eight years. During this period the S.A.C. had performed splendid service, often being called upon to form cordons for the prevention of spread of diseases, *e.g.*, East Coast fever, and to use the words of Lord Selborne, High Commissioner, in his General Order of June 1st, 1908, concerning the disbandment of the Corps, " the wonderful recuperation of the country since the war is in no small measure due to their devoted service."

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[1]From 1896 Arnold Theiler acted as V.O. to the South African Republic. In 1897 he combined this post with that of V.O. to the Staats Artillerie, which, with the Z.A.R.P. (Zuid Afrikaansche Republiek Politie), constituted the permanent defence force. Scant attention, however, was paid to his advice. All ranks of the Republican permanent force received a horse from the State, a special board being responsible for purchase.

[2]Smith, F. (1912-14). A Veterinary History of the War in South Africa. Supplements in *Veterinary Record.*

[3]See Act 5 of 1908: " To provide for the establishment, organisation and control of the Transvaal Police." It was promulgated on July 28th, 1908. The badge was the Imperial Arms with " Transvaal Police " placed in a scroll beneath.

[4]See (*a*) A Short History of the S.A.C. *Nonquai*, Vol. XVII, p. 753, 1926; (*b*) List of officers and superintendents S.A.C., *Transvaal Leader*, 1902; and (*c*) *Review of the S.A.C.*, 1900-08, Hayne and Gibson, Johannesburg, 1908 (Edited by Colonel R. S. Curtis).

[5]Eastern, Western, and Northern Transvaal with local headquarters at Heidelberg, Potchefstroom and Pretoria, respectively.

[6]T.P., and O.R.C.P.

Headquarters were at Auckland Park, Johannesburg.

VETERINARY SERVICES

When the S.A.C. was first raised, it was hoped that both men and horses would be obtainable from the Army; but as the War continued, this was found to be impossible. Not only were recruiting offices established in Cape Colony, Natal, Great Britain and Canada, but remounts were purchased both in South Africa and oversea, chiefly Australia, Argentine, and North America. In addition, since no medical, veterinary or other departmental assistance was forthcoming from the Army, these departments had to be organised, the P.V.O. from October 23rd, 1900, to July 5th, 1907, being Major C. J. Sanderson. Every recruit, however, received instruction in horse management and veterinary hygiene, thus making it possible for him later to supervise dipping, inspect sheep and goats for scab, issue permits, take charge of pounds, etc., etc.

Whereas the greater proportion of the horses came from Australia,[7] most of the mules, and all the oxen and donkeys, were procured locally. As, during the War, it was found that imported horses could not stand the trying train journey up-country, a depôt was established at Hill Crest, near Durban, and here horses were kept two to four months to be acclimatised and broken in. After the War, when feeding and watering arrangements on rail had improved, the depôt was abolished. It was considered by Inspector-General Curtis that the best horse was the Australian "three-quarter bred animal." In the horse-sickness districts of the Low Veld, riding mules replaced horses. Dr. Theiler's immunisation process proving most effective for mules. In the mountainous parts of the Transvaal pack mules and donkeys were used, the military pack saddle being found most serviceable. The riding saddles used at first were of Universal military pattern, but later those of Colonial type were substituted.

Forage, after the country had settled down, was obtained locally, usually by contract, the terms of which involved delivery at the various police posts. In August, 1904, the ration of 10 lbs. oats was replaced by 6 lbs. oats and 4 lbs. maize, and by a gradual change the ration was entirely maize in 1906.

As has been explained in a former communication,[8] stock diseases were rampant after the close of the War, and "at the request of the Director of Agriculture of the Transvaal in the latter part of 1902, the South African Constabulary took over control of these diseases (glanders, East Coast fever, lung sickness, etc.) for a period of six months, with satisfactory results. The number of outbreaks of contagious disease dealt with by the veterinary staff of the Force during that period in the Transvaal alone amounted to: rinderpest, 33; lung sickness, 17; redwater, 11; glanders and farcy, 55. As the district veterinary surgeons were established, the Department was gradually reduced.

The Inter-Colonial Council voted funds in 1903-4 for: 11 officers, 220 N.C.O.'s and men, and 60 natives, and the total veterinary vote, excluding cost of remounts, was £34,888.

At the present time (1908) there only remained one veterinary officer in each Colony, who are assisted by a Farrier-Sergeant in each district." (Review of the S.A.C.)

VETERINARY OFFICERS

An appendix is attached* giving certain details regarding the veterinary officers of the S.A.C., approximately half having seen service in the 2nd Boer War as Civil Veterinary Surgeons (A.V.D.) These were: Messrs. Tate, Joyce, Christy, Bell, Webb, Peddie, Hodder, Irvine, Smith, Runciman and Oliver. Messrs. Gregory, Kellett and Garraway had served with the Imperial Yeomanry, Morgan in the Canadian Artillery and Brand with the 9th New Zealand Regiment. On reorganisation of the S.A.C. in July, 1906, Major Sanderson was appointed Civil Veterinary Adviser at headquarters, and Captain Irvine Smith and Lieut. Runciman and Oliver resigned.

The pay of a captain (Senior V.O.) was £600 p.a. (Report Auditor-General Transvaal, June 30th, 1902, p. 50.)

* * * * *

Pre-Union Police Forces: (d) Orange River Colony

Orange River Colony Police

The first Government civil veterinarian, Otto Henning, was appointed in November, 1896, as a result of rinderpest, but whenever advice or assistance was required for the horses of the Police or State Artillery, he was summoned. During the 2nd Boer War[1] he "was never commandeered to join any of the burgher forces . . . but whenever a virulent disease made its appearance among horses or cattle" he was asked by the Executive Council of the Government "to enquire into the nature of the

[7] Australia—9,476 at average of £33 9s.; Argentine—259 at £26 13s. each; North America—200 at £48 each; and from the Army—1,858 at £31 4s. each.

[8] The Veterinary Profession in South Africa: (1) The Repatriation Departments and their Veterinary Organisation. *Veterinary Record.* September 27th, 1930.

* *See next page.*

[1] From information contained in his letter of October 17th, 1929, to J. A. Maybin, M.R.C.V.S.

APPENDIX.

South African Constabulary (1900-1908). Veterinary Officers.

Name.	Rank on Joining.	Period of Service.	Born.	College and Qualified.	Died.	Further Remarks.
Sanderson, Charles Jesse ...	Major	23.10.00— 5. 7.07		1898, Lond.		Proceeded to Australia.
Henning, Otto	Lieut.	17.12.00—18. 8.01		1887, Stuttgart		Basutoland Service, 1901-1902, and then to G.S.W.A.
Morgan, John William ...	„	2. 3.01—26.12.01		1893, Ontario		——
Gregory, Frank...	Capt.	3. 4.01—17.11.01		1890, Lond.	21.2.06	See Tvl. Volunteers (in Press).
Bell, John Henry	Lieut.	20. 6.01— 1. 2.05		1889, Lond.	June, 1913	Joined Tvl. Civil Vety. Dept.
Kellett, Edward Bromley ...	„	25. 6.01—10.10.01		1889, N. Edin.		Entered private practice, Johannesburg.
Tate, John Miller	„	28. 6.01— 1. 7.08	7.6.62	1899, Lond.		Joined Tvl. C. V. D.
Garraway, Roger Sutton ...	„	14. 7.01— 1. 5.03	10.9.76	1899, Edin.		„ „ „ „ „
Christy, James McNab ...	Capt.	25. 7.01—30. 4.03	7.8.68	1889, Edin.	29.6.17	„ „ „ „ „
Joyce, John Fitzgerald... ...	Lieut.	19. 7.01— 1. 7.06	16.5.77	1899, Edin.	30.8.26	„ O.R.C. Civil Vety Dept.
Webb. Hubert Montgomerie ...	„	5. 9.01—15. 9.01	14.3.77	1898, N. Edin.		„ Tvl. „ „ „
Peddie, John	„	15.10.01—15. 1.03		1893, Edin.		To Johannesburg Municipality.
Edwards, Wm. Watkins Herbert	„	21.10.01— 1. 1.04		1901, Lond.		——
Hodder, Archibald	„	3.11.01—31.10.03		1898, Edin.		Attached A.V.D., 1899, S.A.C. Vety. Hosp., Bloemfontein, 30.6.03.
Newman, William	„	1. 1.02— 7. 5.03		1896, Edin.		——
Irvine-Smith, James	Capt.	1. 1.02— 1. 7.06	1876	1898, Glas.		To Johannesburg Municipality.
Runciman, Ben	Lieut.	21. 1.02— 1. 7.06		1900, N. Edin.		Entered private practice, Johannesburg.
Oliver, Henry Oswald... ...	„	24. 3.02— 1. 7.06		1898, Lond.	1918	Joined O.R.C. Civil Vety. Dept.
Brand, J.	„	13. 5.02—13. 6.02		1890, N. Edin.		——

disease." His immediate duties came to an end in March, 1900, when the British troops occupied Bloemfontein.

At the end of 1900 the S.A.C. was made responsible for the policing of this Colony until June 2nd, 1908, *i.e.*, after the granting of Responsible Government, whereupon a local force, O.R.C.P., was organised.[2] All V.O.'s of the S.A.C. have already been listed under an appendix (see Transvaal), but obviously several were stationed at one time or another in the Orange River Colony. Only Captains Henning, Hodder, Runciman, Oliver, Morgan and Joyce, however, are definitely known to have been in this Colony.

The O.R.C.P. had no regimental V.O. but relied on the C.V.D. for veterinary assistance. At the time of the amalgamation on April 4th, 1913, the Force numbered approximately 450 European members.

[2]For a short period, late in 1902 to March 1st, 1903, certain towns in the Colony were policed by the O.R.C. Municipal Police, Colonel Gray being officer in charge. This body was ultimately absorbed by the S.A.C.

Mr. William Dodd, of Combey Heugh, Wark-on-Tyne, a well-known Northumberland breeder of shorthorn cattle, has still the cow living with which he founded his herd fifteen years ago. The cow is now nineteen years of age, and is due to calve again in November.

PROSPECTIVE HORSE-BREEDING STIMULUS

It has been suggested that the proposed additional duties on motor vehicles may prove a stimulus to horse-breeding. Whatever additional burdens are placed upon motor-traction should tend towards an increased demand for the services of the untaxed horse. "Thus," asks the *Farmer and Stockbreeder*, "may it not be possible that many farmers may try to make up on the horse 'roundabout' what they are deprived of on the motor 'swing?' It is quite an intriguing proposition, and it would be rather interesting if the threatened set back to the more up-to-date motor should end in a useful fillip to the horse-breeding industry. Something of this sort is happening, by the way, in Soviet Russia. There it is a question of tractors proving quite incapable of meeting the demands made upon them, with the result that the services of the horse are being commandeered to meet the situation. Unfortunately for Soviet horse-owners, however, their horses have to be compulsorily 'lent' to the nearest collective farm, which will return them when the working season is finished. That, by the way, is one of the comical incidents of Soviet rule; the suggestive point is that the work-horse is commanding an enlarged place of importance in the agricultural economy of that remarkable country."

* * * * *

According to Schmidt, tuberculosis of the horse is not extremely rare. Horses are susceptible to the human, bovine and avian types of tubercle bacilli. The digestive tract is probably the usual portal of entrance for the infection. The lung is affected most frequently. Lesions may be found also in the spleen, mesenteric lymph glands and liver. Horses respond to the tuberculin test (subcutaneous) and this is the recommended diagnostic procedure.—*Bio. Abs.* 28237.

Clinical and Case Reports

LYMPHO-SARCOMA OF THE MEDIASTINAL GLANDS IN A LABRADOR*

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I am encouraged in bringing this case before your notice by the fact that the condition is one which does not receive any great notice in textbooks and, as far as my experience in practice has gone, is not common. But what is perhaps more important, the case illustrates rather well the value of an X-ray examination as an aid to diagnosis. I would like to point out that X-rays should be regarded strictly as an aid to diagnosis. There seems to be an alarming tendency in the south to regard X-rays as the beginning and end of diagnosis. I rather fancy that in the hands of an enthusiastic amateur a portable X-ray apparatus may prove indeed a dangerous weapon.

The subject of this notice was a seven-year-old Labrador, with no previous history of serious illness.

It was first seen by the House Surgeon on April 19th, 1931, when it was treated for a cough, an expectorant mixture being prescribed. The dog was brought back on April 29th, and, as no improvement had taken place and the dog was very lifeless and walked stiffly, I was asked to examine it.

The dog's respiration was very distressed: this, the owner said, had developed during the walk to the College—a distance of about half-a-mile. The pulse was fast and poorly filled and the temperature 104·6° F. Examination of the chest was unsatisfactory, owing to the exaggerated vesicular murmur.

The dog was admitted to hospital for observation.

The appetite proved to be very poor and the dog occasionally vomited, but only shortly after taking solid food; liquids were drunk greedily and retained. Examination of the urine revealed no abnormality. During the next three days the temperature fluctuated from 102° F. to 103·6° F., elevations being noticed after exertion.

Examination of the chest showed a vague dulness to percussion in the anterior part of the left side. Some mucous râles were heard on both sides but neither crepitation nor friction sounds were discernible. The pulse remained fast and poorly filled, but no definite abnormality of the heart was determined.

The slightest exertion provoked dyspnœa.

Suspicion was aroused that this might be a case of tumour formation in the chest, as a diagnosis of sub-acute bronchitis with cardiac involvement appeared inadequately to justify the clinical signs and the dull area on the left side was certainly not a pneumonic area. The position was explained to the owner, who took the dog home on May 2nd. On May 5th the owner reported that vomiting now occurred after any food was taken, but that only a proportion of the food taken was vomited.

I saw the dog again on May 6th and there was a very obvious extension, since April 29th, of the area of dulness to percussion on the left side. The pulse was faster and weaker and the heart sounds more clearly audible on the right side. The dog was brought into hospital for X-ray examination.

Screening showed clearly an opacity in the anterior part of the chest, especially on the left side, and the heart was pushed over to the right side. The film (exhibited) showed the opacity well and to some extent also the displacement of the heart and of the trachea, while patches of congestion were visible in the right lung.

A diagnosis of tumour formation involving the mediastinal glands was based on the clinical signs and X-ray evidence, and in view of the site the probability seemed to be that the tumour might be a lympho-sarcoma.

The owner was reluctant to agree to destruction and as a " placebo " the chest was irradiated for some minutes each day.

It soon became obvious that the dog was sinking and destruction was carried out on May 15th, 1931.

Post-mortem examination confirmed the tentative diagnosis.

A large, tumour-like mass was found in the anterior part of the chest, displacing the heart and trachea, compressing the left lung and flattening the œsophagus dorso-ventrally. The pressure of the tumour on the œsophagus would cause a hold-up of solid food at that point, this being the cause of the vomiting described. Secondary lesions were present in the liver and spleen.

I am indebted to Dr. J. R. Innes, who examined the tissues, for a very complete report on them. The summary of his report was that the growth was a lympho-sarcoma of the reticular or large round cell type, with metastases in the liver and spleen.

* Presented to the Scottish Metropolitan Division, N.V.M.A., May 25th, 1932.

A world's record for her age for any breed is said to have been put up by the four-year-old New Zealand Jersey, Woodlands Felicie, who completed her test during August. By producing 1,220·89 lb. butter-fat in 365 days, she breaks the existing Jersey record, and takes her place as one of the Empire's highest producers, alongside the Australian Shorthorn cow, Melba 15th (1,614 lb. fat), and the Canadian Ayrshire, Nellie Osborne of Elm Shade 16th (1,257 lb. fat). Woodlands Felicie is the first Jersey cow in the world to produce more than 1,200 lb. fat.

PARTIAL RESECTION OF THE DEEP FLEXOR TENDON IN A HORSE*

W. M. MITCHELL, M.B., Ch.B., B.Sc. (EDIN.), M.R.C.V.S.

Royal (Dick) Veterinary College, Edinburgh

There was exhibited a six-year-old Clydesdale gelding upon which a partial resection of the deep flexor tendon had been performed in September of last year and which had made a complete recovery.

The case history, in brief, was:—

September 7th, 1931.—Picked up a nail in the near hind foot and after removal of the nail the owner treated the injury with poultices and hot foot-baths.

September 11th, 1931.—Case first seen by demonstrator. Animal very lame and on examination of the foot there was found a puncture situated about 1 in. behind the point of the frog, the horn around which had been pared down, and from which synovia was discharging. It was learnt that pain had gradually got worse and the animal was now very loth to put any weight on the foot.

September 12th, 1931.—Horse removed to hospital by ambulance and operated upon under general anæsthesia. The sole of the foot was first pared down generally, to provide a fairly clean field for operation, and as there was considerable under-running of the sole and frog a large area of matrix was easily exposed around the actual puncture. The sinus penetrating through the deep flexor tendon was opened up and sufficient tissue removed to permit of a free inspection of the interior of the flexor sheath (navicular bursa). A small ulcerated area about ¼ in. in diameter on the lower surface of the navicular bone, corresponding to the original sinus track, indicated that the nail had not penetrated into the joint proper, and permitted a hopeful prognosis to be given. The cavity of the sheath was flushed out with hydrogen peroxide and finally packed with ribbon gauze soaked in tincture of iodine. A shoe was put on to allow a removable sole to be employed to maintain dressings in place.

After-treatment consisted of simple wet gauze dressings of acriflavine (1-1,000), with occasional syringing of the cavity with eusol or hydrogen peroxide.

October 1st, 1931.—Horse first exercised, weight only being placed on the toe. By this time the opening through the flexor tendon had closed and no further synovial discharge was seen.

October 5th, 1931.—Horn now covered completely the new granulation tissue and the horse was discharged from hospital, instructions being given gradually to increase exercise daily.

The owner reported that, three weeks after discharge from hospital, the horse went to work.

It is now impossible to distinguish any difference between the hind feet, nor is there any impediment in the gait.

* Presented to the Scottish Metropolitan Division, N.V.M.A., May 25th, 1932.

* * * * *

A CASE FOR DIAGNOSIS*

WALTER SCOTT, F.R.C.V.S., D.V.S.M.

Assistant Veterinary Inspector, City of Edinburgh

The subject is a horse from the Corporation stud and I should perhaps say, at this stage, that I genuinely thirst after knowledge, as far as this case is concerned, and I would be grateful if someone would make a diagnosis for me.

The horse is a Clydesdale gelding, 13 years old, and has had six years' service in the Corporation stud. My attention was first called to the animal by his driver, who said his horse was not swallowing his food. This was about six months ago. I made a careful examination of the mouth and teeth and, although I could not detect any abnormality, I rasped the teeth. There was no improvement in the condition and I again examined the mouth and pharynx without result. What actually happens is this:—The animal masticates his hay in the normal way and appears to be on the point of swallowing the bolus, when it drops out of his mouth. He has no difficulty in swallowing oats and bran, and no difficulty in drinking water, but he seems unable to swallow hay. (Some hay was fed to the horse and the symptoms mentioned above were noted.)

I tried the animal on a course of nux vomica, but I cannot say with much success.

My own tentative diagnosis is that there is some lack of nerve tone in the pharyngeal region, but that is only tentative and I am quite prepared to accept some entirely different diagnosis.

Discussion.—Professor W. Mitchell said that he had had a similar case and that he had heard of similar cases in army horses, but what the exact nature of the condition was he was unable to say.

Mr. G. B. Brook asked if there had been any history of an injury which might lead to a stricture of the œsophagus. On being told that there was no history to that effect, and that no stricture could be detected, he remarked that probably the diagnosis already given was correct.

* Presented to the Scottish Metropolitan Division, N.V.M.A., May 25th, 1932.

Abstracts

[**The Experimental Study of Senescence.** Wiesner, B. P. *Brit Med. Jour.* No. 3742, pp. 585-587.]

Dr. Wiesner is one of the few workers having the opportunity of carrying out observations and experiments on a group of animals sufficiently large and sufficiently homogeneous to permit the collection of decisive data regarding the problems of senescence. The observations briefly related herein represent a few preliminary notes on work done at the Macaulay Laboratory, Institute of Animal Genetics, Edinburgh, and were presented in opening a discussion in the Section of Comparative Medicine at the Centenary Meeting of the British Medical Association.

The writer imported, three years ago, some pairs of Wistar rats from which a standard stock was bred. Most of the stock, which is maintained at a strength of approximately 3,000 animals, has been derived from one ancestral pair by continuous litter-brother by litter-sister mating. The rest of the stock is as highly inbred as the sex ratio of the litters of the early generations permitted, but no artificial selection has been applied. The stock was used during the last two years for a number of endocrinological, nutritional and behaviour experiments.

These notes refer to animals of the first generation only. The oldest age observed in the male was 1,004 days, in the female 982 days. The problem of what constitutes senescence is as complex in the rat as it is in man: many aged animals die quite suddenly without having undergone any apparent phase of senescence. Two "types" of ageing involving presence or absence of manifest senescence respectively are described: the more manifest senescence is, the more definite is the downward trend of the weight curve. Preliminary observation indicates that senescence becomes manifest more readily in the female than in the male.

Experimental data which the author proceeds to give, show quite clearly that senescence is not absolutely correlated with absence of ovarian or testicular function, and that it can develop even in males in which excessive testicular secretion may be assumed to exist in view of the very prominent development of the accessory genital glands. Conversely, aged animals may preserve a satisfactory genital condition although gonadic function is reduced. Whether any correlation between ovarian and testicular function on the one hand, and the general condition of the organism on the other, does exist will be determined when the complete data are available—*i.e.*, not before the end of 1933.

The experiments so far conducted show, in accordance with previous findings, that the senile gonad can be reactivated, at least in some cases: the senescence of the gonad seems to be due to the lack of the specific stimulating factor represented by the gonadotropic hormones of the anterior lobe, and not to any general condition of the organism or to the absolute age of the gonad itself.

Consideration is given to the question of growth in relation to senescence. So far the experiments have shown that many senile animals can react with considerable growth to the administration of growth-promoting abstracts, which, moreover, exert a beneficial influence upon the general condition.

W. B.

* * * * *

[**Ducks and Salmonella Infection.** Dalling, T., and Warrack, G. H. *Jl. Path. & Bact.*, 1932. xxxv., p. 655.]

The article is a summary of a paper read before the Pathological Society of Great Britain and Ireland at Oxford in July. The authors have shown that organisms of the Salmonella group (*S. gærtner* and *S. ærtrycke*) may be isolated from the yolks of duck eggs. They describe the findings of ducks whose serum caused agglutination of cultures of these bacilli and which laid infected eggs (five out of 166 examined). In every case cultures of the Salmonella were subsequently isolated from the ducks' ovary. They also describe an attempt to clear a flock of infection by removing positive agglutination reactors and subsequent testing of the negative reacting ducks and conclude that "there is some hope that one may be able to clear an infected flock by eliminating the positive reactors, and keeping the negative reactors under subsequent observation."

They have tested blood from 14 flocks (1,231 ducks) and found positive reactors to either gærtner or ærtrycke in eight of the flocks.

* * * * *

[**The Transmission of Fowl Pox through Mosquitoes.** Stuppy. *D.T.W.* No. 17. April 23rd, 1932. 260.]

This article deals with the mode of spread and route of infection with the virus of fowl pox, and reference is made to the work of earlier investigators who incriminated both flies and mosquitoes as carriers. The author's experiments show that *Culex pipiens* and *Stegomyia fasciata* are both capable of transmitting typical fowl pox to healthy hens after sucking blood from an affected bird. These insects were still capable of causing the disease twelve, nineteen and thirty-nine days after the infective meal, and the period of incubation in all cases was about 6-8 days. Probably infected mosquitoes remain infective fowl pox virus carriers

for life. The disease produced by mosquitoes in this way is similar to naturally-occurring lesions of fowl pox, and is sufficient to induce immunity. The virus is ingested by the insect while sucking, and leaves the mosquito through the wound caused by the proboscis. It is assumed that the mode of transmission is not a merely mechanical one.

W. L. S.

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[The Occurrence of *BR. ABORTUS* in the Flesh of Slaughtered Cattle. Krüger. *D.T.W.* No. 31. July 30th, 1932. 481.]

Reference is made to current views regarding the channel of human infection with the above micro-organism. Infection may occur from the consumption of contaminated milk; cutaneously through the damaged or undamaged skin, and it may also arise through the mucous membrane of the nose, mouth and eyes from contact with hands contaminated by *Br. abortus*. As those most susceptible to this kind of infection the author places stockmen, veterinarians and butchers. Of the 626 cases of *Br. abortus* in man reported within one year in Germany a diagnosis was established in fifteen people engaged in handling flesh. Some investigators regard this channel of infection as causing more cases than is generally surmised.

These considerations prompted the author to institute experiments designed to test the infectivity of the flesh of slaughtered cattle. Bovine infection is usually *per os* and thence by blood and lymph to the pregnant uterus and mammary gland; it is possible, therefore, that *Br. abortus* may also locate itself in the musculature of the body. As a preliminary the following points were investigated: the possibility of demonstrating *Br. abortus* in blood samples sent for the agglutination test, and if so, the length of time after infection. Also, the question whether the onset of *Br. abortus* infection in guinea-pigs is attended by a rise in body temperature.

Portions of the blood clot from cattle showing positive titres of 1 : 100 to 1 : 2,000 were seeded into glucose-glycerine-bouillon media, but owing to contamination in no case was a positive result obtained. Likewise, no specific infection was induced in guinea-pigs which were inoculated with preparations of such blood clots. With regard to the duration of *Br. abortus* in the blood stream, the experiment indicated that the micro-organisms left the blood very soon after intracardial infection. A positive result was not obtained after fifteen minutes. The experiment gave no confirmation to the assumption that the presence of *Br. abortus* in the blood coincided with a rise in temperature. On the other hand, the probability is that the temperature reaction results from the liberation of cell constituents.

Flesh from various parts of slaughtered cattle was carefully processed and injected into guinea-pigs to test for viable *Br. abortus* micro-organisms. From a series of thirty tests positive results were obtained on three occasions where the material was derived from the muscular portions of the diaphragm. One positive case concerned a cow with a low blood agglutination titre, and infection failed to result in test animals inoculated with milk and lymphatic tissues from the same cow.

The author concludes that flesh of slaughtered cattle may sometimes contain *Br. abortus*, which, on experiment, has been found infective for guinea-pigs after fourteen days' storage. Whether the muscular part of the diaphragm is a predilection seat of *Br. abortus* or an accidental site remains unexplained.

W. L. S.

Review

[The Principles of Animal Hygiene and Preventive Veterinary Medicine. Van Es, Leunis (1932). (V.S., M.D. Professor of Animal Pathology and Hygiene in the University of Nebraska.) pp. 768. With 78 text figs. New York: John Wiley and Sons, Inc. London: Chapman and Hall, Ltd. 40s.]

The author, in his preface, informs the reader that the object which stimulated the writing of this volume is the growing interest in the hygiene of animals and in livestock sanitary problems on the part of veterinarians and of producers of animals. One is further informed that the book was written with the hope that it will prove useful to students in schools and colleges, as well as to the livestock sanitarian.

The introduction is admirable in that it endeavours to define a picture of the subject which presents the true position of hygiene with all its ramifications in the scheme of economic animal husbandry.

The book is well adapted to meet the requirements of students in schools and colleges and, although evidently intended primarily for those interested in animal husbandry *per se*, might well be read with profit to themselves by veterinary students and even practitioners.

Since the book is " an evaluation as well as a summarisation of the evidence presented in literature " the addition therein made of bibliographic references—admittedly brief—would appear to be desirable, if not essential. It is inferred that the bibliography is not intended to be complete, but it must be added that the inquisitive reader will have difficulty in obtaining information from some of the incomplete references. Further, Hoare's " System of Veterinary Medicine " was *not* published in Chicago.

The chapters on Heredity, Soil, Water, Food, etc., are good and their value is increased by the insertion of numerous drawings. That dealing with specific diseases provides ample information for those for whom the book was intended.

The publishers have carried out their work well, both the printing and binding being of excellent quality.

Reports

ANNUAL ADMINISTRATION REPORT OF THE ARMY VETERINARY SERVICE IN INDIA: 1930-31

The strength in animals of the Army in India during the year was as follows:—

Horses	32,881
Mules	30,908
Camels	4,128
Cattle	8,257
Donkeys	131
Elephants	1
	76,306

Of the above, 6,517 horses, 3,747 mules, 1,443 cattle and 131 donkeys were in Remount Depôts; 5,623 cattle were in Military Dairy Farms, and the remainder in charge of units and Military Grass Farms.

Total wastage in units was—horses 4·16 per cent., mules 3·84 per cent., cattle 6·66 per cent., and camels 14·58 per cent.

Except in respiratory diseases, sickness and disability were generally less than during the previous year. There were also fewer cases of specific or scheduled diseases, such as anthrax (10 cases), foot-and-mouth disease (318 cases), glanders (seven cases, five being reactors to the mallein test), rinderpest (75 cases) and Johne's disease (five cases)—though piroplasmosis (352 cases) and rabies (17 cases) were slightly up.

Influenza prevailed somewhat extensively, 9,786 cases in horses, mules and donkeys being admitted and 28, or 0·28 per cent., died. It was particularly severe amongst the young donkeys at Mona Remount Depôt, twenty-three being affected out of a strength of ninety-five, and nine died. It also prevailed seriously in the Cavalry Brigade and Artillery units at Meerut, where twenty-two showed symptoms of acute toxæmia, and eight died. On the whole, however, the disease was of a benign type. Apart from the usual hygienic measures, which included complete cessation of work in affected units, the following special treatments were adopted with apparent success:—

(*a*) Antogenous vaccine in cases of persistent catarrh.

(*b*) Lugol's solution intravenously where there was respiratory distress, in doses of 50 c.cs. the first day and 100 c.cs. on the second and third day. It was seldom found necessary to give more than three doses.

(*c*) In the catarrhal form, unaccompanied by fever, auto-hæmo-therapy gave excellent results at Mona Remount Depôt. Five c.cs. of blood was withdrawn in a syringe from the jugular vein and immediately injected into the muscles of the neck. This was repeated at intervals of one day, and a third dose was rarely found necessary.

(*d*) Intra-tracheal medication as for strangles. Two doses at one day's interval were found to be sufficient in the majority of cases.

(*e*) Tryparsamide intravenously had an instantaneous effect in reducing temperature and depression.

(*f*) For serious cases showing acute toxæmia, daily administration of twelve ounces of salt in two gallons of water by means of the stomach pump, also one gram of arecoline daily and digitalis periodically, proved most successful.

It was noted that horses and mules which had recently suffered from catarrh or strangles showed a strong immunity towards influenza.

With regard to strangles, the intra-tracheal medication of a mixture of essential oils, as evolved and perfected by Major T. F. Arnold, R.A.V.C., was employed almost to the exclusion of other methods of treatment. As this method of treatment has previously been reviewed in the *Veterinary Record* there is no need to redescribe it. As a preventive measure all stock on purchase received 10 c.cs. of the intra-tracheal injection.

A strangles anti-virus prepared, on the Besredka method, by the Imperial Institute of Veterinary Research, Muktesar, was given a thorough trial, but the results were very disappointing.

In the treatment of trypanosomiasis (surra) a striking improvement in treatment has been effected by the use of four gramme doses of "Naganol" in the early stages of the disease, injected intravenously and intrathecally. Early diagnosis of the disease has also been assured by means of the mercuric chloride test.

Good results are also reported in the treatment of canker and bursatti by means of intramuscular injection of spleen extract, and experiments are being continued.

J. M.

COUNTY BOROUGH OF HUDDERSFIELD

ANNUAL REPORT OF THE M.O.H. FOR THE YEAR 1931

We have received the above report from Mr. W. R. McKinna, M.R.C.V.S., D.V.S.M., the Veterinary Officer to the Borough. The pages in the report of chief interest to veterinarians are those in which the Veterinary Officer describes his work.

Fourteen cows have been slaughtered under the provisions of the Tuberculosis Order and the writer adds that most of these animals *were detected during routine inspections carried out under the Milk and Dairies Order.* Routine inspection comprises supervision of the health of the cows, suitability of shippons for milk production, clinical examination of the udders, combined with the taking of samples of milk for microscopic and, where necessary, biological examination.

Besides the examination of cows in the borough, milk coming into the town is examined for tubercle bacilli. Forty milk samples were taken during routine inspection, and of these four proved positive to the presence of tubercle bacilli. Four infected samples were also found in the borough milk supply and two of the offending animals detected.

One case of undulant fever in man occurred in the borough and was traced to the milk supply—Mr. McKinna states that " the affected cow was detected and its milk supply stopped, but unfortunately there is no legislation to enable one to dispose of such potentially dangerous animals."

Two farmers within the borough produce " Certified Milk " from tuberculin tested herds.

Samples of milk are taken weekly under the direction of the M.O.H. and examined as to their bacterial content and any that do not come up to the required standard of cleanliness are reported. In this way 25 unsatisfactory samples were enquired into and traced. The majority of samples were found to contain an excessive number of coliform organisms which were due to lack of cleanliness before milking and imperfect sterilisation of utensils.

The modernising of five cowsheds has been carried out and two new sheds fulfilling present-day requirements have been erected. The approximate number of cows is 1,840 housed in 284 sheds. The approximate amount of milk produced in the borough is 2,700 gallons per day. The total number of clinical examinations of cows made is 6,933.

This report, occupying only seven pages, is illuminating and something of a model of what veterinary reports should be. It shows at a glance what good work the Veterinary Officer is doing and how modern and up-to-date in veterinary matters is the Borough of Huddersfield.

G. M.

NATIONAL VETERINARY MEDICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND

Quarterly Meeting of Council

The Autumn Quarterly Meeting of Council of the National Veterinary Medical Association of Great Britain and Ireland was held at 10, Red Lion Square, W.C.1, on the afternoon of Tuesday, October 4th, 1932.

The President (Lieut.-Colonel P. J. Simpson) occupied the chair and there were also present Mr. H. W. Steele Bodger, Captain J. C. Coleman, Captain H. W. Dawes, Major A. C. Duncan, Major G. W. Dunkin, Captain H. Tudor Hughes, Mr. L. Hughes, Professor J. T. Share-Jones, Major H. Kirk, Mr. E. C. Lloyd, Messrs. G. H. Locke and J. W. McIntosh (Hon. Secretary), Professor James Macqueen, Messrs. G. P. Male, G. T. Matthews, Major-General Sir John Moore, Captain S. J. Motton, Mr. R. Barons Nelder, Major R. H. H. Over, Mr. W. D. Rees, Captain J. R. Rider, Captain W. K. Townson, Mr. W. R. Watson, Professor A. W. Whitehouse, Mr. J. Willett, Mr. R. A. Willett, Professor G. H. Wooldridge, Dr. W. R. Wooldridge and Captain W. G. Wragg (Hon. Treasurer), together with Mr. F. Knight (Secretary) and Mr. C. O. Langley (Solicitor).

The minutes of the two meetings of Council which were held at Folkestone on the occasion of the Congress of the Association, having been printed in the *Veterinary Record*, were taken as read and were confirmed and signed.

The first of the two matters arising from these minutes was spoken to by the President, who observed that he had made enquiries concerning the Swedish Veterinary Association's meeting at Stockholm on October 15th, to which he had been appointed as the N.V.M.A. delegate, and had ascertained that it was a one-day gathering. As a consequence, he felt that he was not justified in putting the Association to the expense of sending him to represent them.

The President's action was approved.

The other matter arising, proceeded the President, was in connection with the committee of the Economic Advisory Council on the slaughtering of animals, and he would ask the Secretary to read a letter which had been received from the Secretary to the Council.

The Secretary read the following letter:—

Economy Advisory Council,
2, Whitehall Gardens,
S.W.1.

August 18th, 1932.

Dear Sir,—In reply to your letter of the 16th instant, I write to request you to inform your Association that the duty imposed on the Committee of the Economic Advisory Council on the slaughtering of livestock is to consider and report on the question whether the present

arrangements for the slaughtering of livestock for food are satisfactory from the economic standpoint.

I have no doubt that the Committee would have gladly availed themselves of the offer of your Association to give evidence before them. This, however, is not now possible as the Committee have completed their Report and submitted it to the Prime Minister.

Yours faithfully,
Francis Hemming.

The President said that it would be noted that there was no further action to be taken on that letter.

CORRESPONDENCE

(1) From the following members of Council, intimating, with regret, their inability to attend the meeting: Dr. O. Charnock Bradley, Messrs. W. H. Brooke, F. A. Davidson and P. F. Dolan, Professor S. H. Gaiger, Mr. A. Gofton, Captain J. R. Hewer, Mr. R. Lovell, Major J. G. McGregor, Mr. A. L. Mullen, Mr. W. Nairn, Captain A. W. Noel Pillers, Major D. S. Rabagliati, Mr. J. N. Ritchie, Professor William Robb, Major A. Spreull, Mr. H. P. Standley, senr., and Mr. T. Wilkinson.

(2) From Mr. Hugh P. Hogben, Chairman of the Provisional Committee for the Folkestone Congress, in the following terms:—

26, Manor Road,
Folkestone.
August 24th, 1932.

Folkestone Congress

Dear Mr. Secretary,—Would you be good enough to express to the Council our gratification at the kind vote of thanks accorded us, which, I take it, includes not only myself but all those who have worked with me.

On behalf of the local Association, may I say we esteemed it a great privilege and pleasure that the National should hold its Jubilee Congress in our midst. It was a great pleasure for us to co-operate with the National.

Yours sincerely,
Hugh P. Hogben.

(3) From the Hon. Organiser, The People's League of Health, inviting the Association to appoint a representative to a meeting of the League's Bovine Tuberculosis Sub-committee, to be held at 12, Stratford Place, W., on Wednesday, October 12th.

The President said that he was present at the meeting at Guildhall at which approval was given to the League's proposals regarding the prevention of human tuberculosis of bovine origin. As was stated in the letter, there was then no opportunity for discussion by representatives of the interests affected, and now that this was to take place he felt that it would be advisable to have the Association's views put before the League by a delegate.

It was eventually decided, on the proposition of Mr. G. P. Male, seconded by Mr. J. C. Coleman, to appoint the President as the Association's representative to the meeting.

MEMBERSHIP OF THE ASSOCIATION

The Secretary reported that the number of Members of the Association at September 30th, 1932, was 1,672, this being exactly the same number as at the corresponding time last year.

Obituary List.—The Secretary read the list of members of the Association who had passed away during the quarter, Council upstanding the while.

Election of New Members.—The following gentlemen, having filled in the requisite forms of nomination and paid their subscriptions, were unanimously elected as members of the Association, on the proposition of Dr. A. W. Whitehouse, seconded by Dr. W. R. Wooldridge: Messrs. R. W. Chesters (Glasgow); E. C. S. Dawe (Worthing); W. B. Forrest (Kirkcaldy); C. Mackenzie (Cromarty); W. Nightingale (Liverpool); C. H. Perry (Wimbledon); R. W. Sainsbury (Nigeria).

NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS

Delegates' Report

The Secretary read the following joint report from Major D. S. Rabagliati and Major A. Douglas:—

As your delegates we attended the Eighteenth Annual Congress of the National Association for the Prevention of Tuberculosis held in London from July 21st to 23rd, 1932, under the chairmanship of Sir Arthur Stanley, G.B.E., C.B., M.V.O.

At the forenoon session on the 21st, the Congress was formally opened by Sir Arthur Robinson, the Permanent Secretary to the Ministry of Health, in the unavoidable absence of the Minister. Sir Arthur dealt with the measures now taken for the prevention and treatment of the disease, and mentioned the improvements of the milk supply by the formation of tubercle-free herds, pasteurisation, and the general improvement of market milk. He stressed the need for further propaganda and education and of voluntary aid as well as official action. He pointed out that the death rate from non-pulmonary tuberculosis had fallen from 648 deaths per million in 1882 to 187 in 1930.

In recognition of the fiftieth anniversary of the discovery of the tubercle bacillus by Koch, the rest of this session was taken up with addresses on "The Influence of the Discovery of the Tubercle Bacillus by Robert Koch." These addresses were given by Dr. R. A. Young, Brompton and Middlesex Hospitals, Sir Henry Gauvain, Cripples Hospital, Alton, and Dr. William Charles White of Washington, U.S.A., who dealt with the medical, surgical and public health aspects respectively. Dr. White referred to the eradication of bovine tuberculosis in America and stated that this was probably the most practical feature of their preventive work.

There was no discussion of these addresses.

The afternoon session was devoted to the discussion, which was continued on the Friday morning, on "The Protection from Tuberculosis of the Young Adult." Six papers were read on this subject, but practically no mention was made of either meat or milk and no points were raised of special interest to the veterinary profession. This subject was of special interest to the medical profession, in view of the relative increase in

the death rate from tuberculosis in the young adult group. The chief points raised in the course of discussion were that infection is practically universal at the "young adult" age, that the breakdown is due to endogenous and not exogenous infection, and the usual cause is overstrain, mental and physical, and depressed metabolism.

This discussion was adjourned to permit members and delegates attending a reception at the Guildhall at the invitation of the Corporation of London. A very pleasant hour was spent, the museum, picture gallery, etc., being thrown open to the guests.

On the second day, after the conclusion of the adjourned discussion, the rest of the time was devoted to a discussion on "The Need for Continuity of Care in Tuberculosis." The six papers submitted dealt exclusively with the social aspect of the disease and tuberculosis dispensaries.

It appeared to us that there were too many papers given and insufficient time allowed for general discussion, the acoustics of the hall were poor, and many of the speakers were extremely difficult to follow. Nevertheless, the discussions were very interesting and showed the need for continual work in the eradication and prevention of tuberculosis.

On Saturday, July 23rd, two excursions were arranged for delegates. Your delegates chose the visit to the National Institute for Research in Dairying at Reading. After inspecting the farm buildings two of the laboratories were visited and explanations given of the work on hand. From a veterinary point of view the most interesting work presently being carried out is an investigation as to the length of time the tubercle bacillus can retain its vitality on grassland and manure. Unfortunately the herd of cows which are tubercle-free were not seen as they were in the fields too far away,

Though the aspects of the tuberculosis problem discussed at the Congress were not those in which the veterinary surgeon is primarily interested, your delegates spent an interesting time and were able to discuss privately with medical delegates several tuberculosis problems with a veterinary bearing.

The report was received and adopted, on the proposition of Mr. J. Willett, seconded by Major A. C. Duncan.

Mr. J. C. Coleman proposed that the authors of the report be accorded a hearty vote of thanks. This was seconded by Sir John Moore and carried with acclamation.

Reports of Committees

Organising Committee.

The Secretary read the following report of this Committee:—

A meeting of the Organising Committee was held at the offices of the Association on Monday, October 3rd, 1932, with Captain J. R. Rider in the chair.

Several items of correspondence with reference to the treatment of animals of the poor were considered and the Secretary was instructed as to the action to be taken.

Correspondence was submitted which had taken place with the British Medical Association as a consequence of a resolution received from the Southern Counties Division.

It was decided (*a*) to collect concrete evidence from the Divisions, and (*b*) that a deputation interview the British Medical Association on the subject.

Consideration was given to a scheme for newspaper publicity received from the Lancashire Division.

After discussion, the Committee came to the conclusion that, on financial grounds, the scheme could not be adopted in its entirety. It was, however, decided to consider, at the next meeting, certain details which it might be possible to add to existing arrangements.

The Secretary informed the meeting that five cases of advertising by unqualified persons had been dealt with by counter-announcements during the past quarter, the districts concerned being Lancashire, the Midlands, South-East and West of England and Wales, while letters were read which had been inserted in West of England newspapers in correction of misleading statements.

Cuttings were presented showing that the article "Some Recent Advances in Veterinary Science" had appeared in six North of England newspapers since the July meeting and that the proceedings of the Folkestone Congress had been widely quoted.

The President, in inviting a motion that the report be received, commented that, from his own knowledge of the matter, the Organising Committee had done very extensive work during the past quarter; moreover, in Captain Rider, the Committee had had an exceedingly enthusiastic and energetic Chairman. (Hear, hear.)

The report having been received, on the proposition of Mr. J. Willett, seconded by Sir John Moore,

Mr. J. W. McIntosh rose to say that he thought they ought not to allow that occasion to pass without, as a Council, expressing their appreciation of the excellent work that their Organising Committee had done during the past year. The report itself showed that they had been very active, and a great deal of gratitude was due on account of the vast amount of time and energy put into the work by Captain Rider, the Chairman of the Committee. (Applause.)

Captain J. R. Rider, in acknowledgment, said that he blamed them for getting him on his feet at an awkward moment—when, as the result of a cold, his vocal powers were quite inadequate to the duty of thanking them for the very kind remarks that had been made about his work. He desired, however, to emphasise the fact that without the enthusiastic support and co-operation of the Committee as a whole very little good could have been achieved.

The report was adopted, on the proposition of Major H. Kirk, seconded by Dr. Whitehouse.

Appointments Committee.

The Secretary read the following report, the reception of which was moved by Professor Macqueen and seconded by Major Dunkin:—

The Appointments Committee met at the offices of the Association on Tuesday, October 4th, with Professor Macqueen in the chair.

The minutes of the previous meeting were read and signed as correct.

Arising from the minutes, further consideration was given to the question of the proposed amalgamation of the Veterinary and Agricultural Departments in Uganda in the light of a communication from the Uganda Veterinary Association.

In view of certain information subsequently received, it was decided that further action be postponed.

A letter was read from the South African Veterinary Medical Association requesting the co-operation of the N.V.M.A. in their efforts to dissuade members of the profession from applying for the post of Assistant Municipal Veterinary Officer, Durban, the salary of which they regarded as being unsatisfactory.

It was reported that the Editorial Committee had agreed to withhold any advertisement of this post which might be received, and the Committee therefore came to the conclusion that no further action was called for at the moment.

The report was adopted without discussion, on the proposition of Mr. Hughes, seconded by Mr. Coleman.

Veterinary Officers' and Public Health Committee.

A report from this Committee was read by its Chairman (Mr. Male). It was considered by Council in committee, and on the resumption of open meeting, adopted (on the motion of Mr. Male, seconded by Captain Townson) in the following form:—

A meeting of the Veterinary Officers' and Public Health Committee was held at 2, Verulam Buildings on Tuesday, October 4th, 1932, under the chairmanship of Mr. G. P. Male.

The minutes of the previous meeting were read and signed as correct.

The Secretary reported that many requests for copies of the Association's Scheme for the Eradication of Bovine Tuberculosis had been received from members of the medical profession and others during the past quarter, probably as the result of the article contributed by the Association to the *British Journal of Tuberculosis*.

Proofs were submitted of the Committee's draft tuberculin test certificates. Various alterations were agreed upon and the certificates, as revised, were approved.

It was resolved to recommend that specimen copies of these certificates be enclosed in an early issue of the *Veterinary Record*, this number to contain an editorial reference to them and to the arrangement whereby members requiring copies may obtain these direct from the printers of the *Veterinary Record*.

It was resolved to recommend that a request be made to the Ministry of Health to amend the Milk (Special Designations) Order so as to render permissive the use of either the Subcutaneous tuberculin test or the Double-Intradermal tuberculin test for graded herds.

It was further resolved to recommend that copies of this resolution should also be forwarded to the Ministry of Agriculture and the Scottish Board of Health.

Parliamentary Committee.

Captain J. C. Coleman (Chairman) read and moved the reception of the following report of this Committee:—

A meeting of the Parliamentary Committee was held at 2, Verulam Buildings, on Tuesday, October 4th, Mr. J. C. Coleman occupying the chair.

The minutes of the previous meeting were read and signed as correct.

The Secretary presented correspondence with the Scottish Branch concerning their recommendation that the owner of a bull applying for a licence under the Improvement of Livestock (Licensing of Bulls) Act, 1931, should be required to support such application with a certificate of health granted by a veterinary surgeon. It was understood that representations made by the Branch had been sympathetically received by the Department of Agriculture for Scotland, and that the Branch did not think that any further action could usefully be taken at the moment.

The motion for the reception of the report was seconded by Mr. J. Willett, and, on the proposition of Dr. Whitehouse, seconded by Major Over, the report was adopted.

Finance and General Purposes Committee.

The report of this Committee was read by the Secretary, as follows:—

A meeting of the Finance and General Purposes Committee was held on September 19th, 1932, under the chairmanship of the President.

The Hon. Treasurer presented a report on the finances for the months of July and August, and accounts totalling £289 1s. 2d. were passed for payment.

Among other matters, consideration was given to a letter from the Inland Revenue disputing the Association's claim for total exemption from Corporation Duty. It was decided to interview the Association's Auditor before taking any further action.

The Committee also discussed the resolution from the Western Counties Division to the effect that the Division will support the N.V.M.A. in approaching the Ministry of Agriculture in order to get deleted from its publications the detailed treatment of animal diseases other than those scheduled. This matter is still under consideration, but the Committee hope to be in a position to make a recommendation to the January meeting of Council.

The President, as Chairman of this Committee, moved the reception of the report. This was seconded by Major Dunkin.

There being no discussion, the report was adopted, on the proposition of Dr. Wooldridge, seconded by Dr. Share-Jones.

Hon. Treasurer's Statement: Captain W. G. Wragg (Hon. Treasurer) presented his financial statement for the quarter, drawing the attention of the Council to one or two particular points therein. Those statements, said the Hon. Treasurer, were only designed to show the financial position for three months, and as compared with the similar period of the previous year.

A satisfactory amount remained on deposit, while there was still a satisfactory saving on the cost of printing the *Veterinary Record* as compared with last year.

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He would direct their attention to the continued falling off in revenue from cash and credit advertising through the Association's journal, but they had recently been through the whole of the accounts to date, for this year, and he was able to say that the Association's position, despite the general economic depression, was very satisfactory, although not quite as good as it was last year. He thought that if they did not launch out in any direction involving great expense this year, they might still look forward to a substantial balance at the end of 1932. (Applause.)

The Hon. Treasurer's statement was received, on the proposition of Mr. Hughes, seconded by Mr. McIntosh.

The President having invited discussion, Major Kirk said that he thought it was a matter for congratulation that a saving had been effected on the net cost of printing the *Veterinary Record* from January to August, 1932, as compared with the corresponding period of 1931, in spite of the great increase in the size of the journal. (Applause.)

The financial statement was adopted, on the proposition of Mr. L. Hughes, seconded by Professor Wooldridge.

The President stated that before the Council proceeded with the business on the agenda, he would like to announce a piece of news that had just come to hand, and that was that the Board of Trade had now approved of the changes in the articles of association of the Association which were passed at the Folkestone meeting. (Hear, hear.)

Editorial Committee.

The following report of this Committee was read by the Chairman of the Committee (Sir John Moore), who moved its reception:—

The period under review has witnessed the holding of the Association's Jubilee Congress, and an important landmark in the history of the Association's journal has been the publication in this connection of the largest number of the *Veterinary Record* ever produced, namely 92 pages. This contained a graphic and well-illustrated account of the proceedings and the Committee is glad to learn that this Special Number has met with wide appreciation amongst the members.

It will be noted from this and subsequent issues that the Committee has reverted to the policy which formerly obtained of reproducing papers presented to the Congress together with the discussions upon them. This decision was taken in consequence of representations which had been made to the Committee that failure to insert the papers in the Association's journal deprived many subscribers and members of the staffs of institutions, particularly those overseas, of the opportunity of perusing them.

The Committee has been fortunate in securing the valuable services of Mr. L. E. W. Bevan in connection with the work of reviewing Colonial Veterinary Service Reports, which had previously been performed by the late Mr. Eustace Montgomery.

The supply of contributions to the Clinical Section has shown some falling off during the quarter, but it is hoped that the termination of the holiday season will enable practitioners to devote more time to supporting the efforts of the Committee to present a valuable clinical section weekly.

The holiday season has also been responsible for a further curtailment in the placing of display advertisements to that already suffered on account of the industrial depression, but happily there is some evidence of improvement in this respect. The Committee desires to take this opportunity of pointing out that members can do much to assist the Association's journal by supporting those firms which advertise in the *Veterinary Record.*

The motion for the reception of the report having been seconded by Major Kirk and carried,

Mr. Coleman said that he would like, as on previous occasions, to have a motion on the minutes expressing the Council's appreciation of the further progress that the Association's journal was making under the stewardship of the Editorial Committee. In this connection, too, he thought they were greatly indebted also to their Editorial Representative. In his view, the report just read by Sir John Moore was most stimulating and the work of the Committee had been heroic: he had seen the list of attendances at the weekly meetings of the Committee, and many of its members had been to a large percentage of the meetings called.

Captain W. K. Townson seconded the motion, and the Council concurred.

Major Kirk, speaking to the reference in the report to the difficulty of maintaining the advertisement space taken in the *Record*, expressed the hope that he would be regarded as in order in requesting all members present to use their personal influence to get more advertisers for the Association's journal. Not only members of Council, but the general body of members of the Association might, he thought, know of firms who would advertise if the claims of the *Veterinary Record* as an advertising medium were brought to their notice. (Hear, hear.)

The President observed that he had no doubt that Major Kirk's remarks on that subject would be borne in mind by the members present and by those who would subsequently read them in the *Record.*

Standing Committees, 1932-33

The Secretary read the following report:—

A meeting of the Selection Committee appointed by the Council on August 13th, met at the offices of the Association, on Monday, October 3rd, 1932.

The President occupied the chair, and there were also present: Mr. J. C. Coleman, Professor J. Macqueen, Sir John Moore, Captain J. R. Rider and the Hon. Treasurer (Captain W. G. Wragg).

The Committee considered the question of the appointment of Standing Committees for the year 1932-33, due regard being paid to the wishes of members of Council.

It was resolved to recommend:—

(*a*) That the President, Hon. Secretary, and Hon. Treasurer be members *ex officio* of all Committees, and

(*b*) That the Committees should consist of the following members so far as they are willing to serve:—

APPOINTMENTS COMMITTEE

Andrews, W. H.
Blackwell, W. G.
Buxton, J. B.
Craig, J. F.
Gooch, H.
Locke, G. H.
McGregor, J. G.
Macqueen, J.
Matthews, G. T.
Moore, J.
Rider, J. R.
Share-Jones, J. T.
Simpson, R.
Whitehouse, A. W.
Wooldridge, W. R.

FINANCE AND GENERAL PURPOSES COMMITTEE

Bell, H.
Dunkin, G. W.
Hobday, F. T. G.
Hughes, L.
Kirk, H.
Locke, G. H.
Macqueen, J.
Moore, J.
Over, R. H. H.
Townson, W. K.
Willett, J.
Willett, R. A.
Wooldridge, G. H.
Wright, J. G.
Young, T. D.

VETERINARY OFFICERS' AND PUBLIC HEALTH COMMITTEE

Coleman, J. C.
Dawes, H. W.
Dolan, P. F.
Gooch, F. L.
Lloyd, E. C.
McGregor, J. G.
Male, G. P.
Motton, S. J.
Nairn, W.
Over, R. H. H.
Rabagliati, D. S.
Simpson, R.
Standley, H. P., senr.
Whitehouse, A. W.
Wooldridge, G. H.

ORGANISING COMMITTEE

Bradley, O. C.
Coleman, J. C.
Dawes, H. W.
Hobday, F. T. G.
Kirk, H.
Male, G. P.
Matthews, G. T.
Moore, J.
Mullen, A. L.
Nairn, W.
Nelder, R. B.
Pillers, A. W. Noel
Rees, W. D.
Rider, J. R.
Standley, H. P., senr.

PARLIAMENTARY COMMITTEE

Brittlebank, J. W.
Coleman, J. C.
Craig, J. F.
Hughes, L.
Male, G. P.
Moore, J.
Nairn, W.
Nelder, R. B.
Rees, W. D.
Rider, J. R.
Share-Jones, J. T.
Simpson, R.
Spreull, A.
Whitehouse, A. W.
Young, T. D.

EDITORIAL COMMITTEE

Dunkin, G. W.
Glover, R. E.
Kirk, H.
Lovell, R.
Macqueen, J.
McCunn, J.
Moore, J.
Share-Jones, J. T.
Sheather, A. L.
Townson, W. K.
Willett, J.
Wooldridge, G. H.
Wooldridge, W. R.
Wright, J. G.
Young, T. D.

The report was received and adopted, the nominations for each Committee being approved as the names were read out by the Secretary.

There being no other business, the President declared the meeting closed, being accorded a vote of thanks for his conduct of the proceedings on the proposition of Mr. J. Willett.

The President, in acknowledgment, said he was afraid the Council, by their own act, would have to put up with him for another twelve months. (Hear, hear.) It was not his fault, but if all the meetings passed off as pleasantly as that one had done, it would be a very happy time for all of them. (Applause.)

BRIGHT HORSE-BREEDING OUTLOOK

"After almost a decade of unremunerative prices, horses are about the only class of livestock that are maintaining their price or leaving a profit," writes "The Raider" in *The Farmer and Stockbreeder*. "The horse trade is looking up. At Perth every average was up, and Lanark this week had the same experience.

"Geldings of all ages were the feature at Lanark. There was a keen demand and without any three-figure prices the averages were all up from last year."

* * * * *

The National Horse Association report that, as a result of negotiations with the Railway Clearing House, the railway companies have agreed to their request that the existing special fares to drovers accompanying livestock to auction sales shall also be extended to cover grooms in charge of horses and ponies. Beginning from November 1, the concession of a single fare of 1d. a mile, as against 1½d. a mile, for grooms taking horses to sales, when the groom is in charge of one to three trucks, and of 1½d., as compared with 3d., for the double journey will be in operation.

* * * * *

Victor K. LaMer, of Columbia University, concludes as a result of experiments on rats, that if the proper amounts of calcium and phosphorus are included in the diet, the length of the average life of man could be extended 10 per cent. by this means alone. That is to say, those who would normally die at 70 would live to be 77. By building strong calcified bone, such as results from a high intake of calcium and phosphorus in the diet, the prime of life also can be prolonged. Although important, vitamin D and ultra violet light cannot substitute for the proper amounts of calcium and phosphates in the diet.—*Vet. Med.*

* * * * *

What is claimed to be the largest cowhouse in this country, if not in Europe, is to be built for Mr. P. G. Holder, at Corston Hall, S. Shropshire, by the Salopian Cattle Bowl Company. The building is to accommodate 288 cattle at one time, and will measure 256 ft. in length and 66 ft. in breadth. Work is to begin at once.

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N.V.M.A. Divisional Reports

SCOTTISH METROPOLITAN DIVISION*

MEETING AT THE "DICK" COLLEGE

A meeting of the above Division was held in the Royal (Dick) Veterinary College on Wednesday, May 25th, 1932, commencing at 11.30 a.m. The President (Professor W. M. Mitchell) occupied the chair.

The following members and visitors signed the attendance book during the meeting:—*Members:* Dr. O. Charnock Bradley, Professor G. F. Boddie, Messrs. A. R. C. Bowie, Esmond Brown, W. H. W. Baird, D. Cameron, E. J. Duncan, C. B. Davidson, F. A. Gordon, A. Gofton, Professor R. G. Linton, Major J. G. MacGregor, Captain Player, Mr. R. H. Robertson, Major Roche-Kelly, Messrs. A. Sillars, W. Scott, J. S. A. Spreull, J. Taylor, J. E. Wilson, H. M. Wilson, T. P. Young, and J. N. Ritchie (Hon. Secretary). *Visitors:* Messrs. G. B. Brook, N. P. Male, A. W. Taylor and several students.

Apologies for absence were received from Professor J. Russell Greig, Messrs. W. S. Gordon, W. C. Miller, Majors A. L. Robertson, A. Spreull, and Mr. J. P. Walker.

Cases and Demonstrations

Major Roche-Kelly, Professor Mitchell, Professor Boddie, and Mr. W. Scott showed cases of clinical interest. [The reports of the cases presented by Professors Boddie and Mitchell and by Mr. Scott are reproduced in the Clinical Section of this issue.—Ed., *V.R.*] During the whole meeting two demonstrations were on view. (1) By Dr. T. W. M. Cameron on the Internal Parasites of the Horse in this Country, and (2) Pathological specimens kindly supplied by the City of Edinburgh Veterinary Department through Mr. E. J. H. Sewell. These excellent specimens aroused considerable interest and the Division is most grateful for the use of them on this occasion.

DR. CAMERON'S DEMONSTRATION

Dr. T. W. M. Cameron has supplied the following notes in connection with his demonstration.

Flatworms

The only fluke found in the horse is the common liver fluke, and it is not very common. It causes lesions similar to those seen in sheep. Two species of cestodes are found in British horses: *Anoplocephala perfoliata* and *A. mamillana*. The former lives in the large gut and causes ulceration; the latter lives in the small gut and appears to be harmless.

Hydatid cyst, the larval stage of *Echinococcus granulosus* of the dog, is far from uncommon in horses in Britain. It generally develops in the liver and lungs.

Nematodes

The commonest nematodes of the horse are the sclerostomes and cylicostomes, which are illustrated on the two middle benches. The remaining forms are seen on this bench. They include:—

Ascaris equorum, which has a development involving a migration through the liver and lungs.

Oxyuris equi, which lives in the large intestine. It does not migrate, but its fourth stage larva is a blood sucker.

Habronema microstoma, which lives in the stomach and is transmitted by stable-flies.

Trichostrongylus axei, which has a direct development and lives as adult in the stomach.

Onchocerca cervicalis, which lives in the ligamentum nuchæ and may cause poll evil and fistulous withers.

Setaria equina, which lives in the body cavity and is comparatively harmless.

Dictyocaulus arnfieldi, which lives in the lungs and causes verminous pneumonia.

The Sclerostomes

There are three species of the genus Strongylus in the horse in Britain: *S. vulgaris*, the smallest and most common; *S. edentatus*, larger and fairly common, and *S. equinus*, about the same size but somewhat rare.

All are tissue feeders, sucking particles of large intestine into the mouth capsule where it is digested. All have a similar development outside of the body: the small egg hatches and ultimately gives rise to a very resistant third stage or infective larva. This larva has a long tail and is very difficult to kill by natural means. It is swallowed in food or water and its subsequent development differs in the three species. *S. vulgaris* migrates to the mesenteric arteries where it causes the familiar aneurisms; *S. edentatus* migrates to a sub-peritoneal situation and *S. equinus* similarly migrates to the pancreas (or liver or lung). In this situation the larva becomes a fourth-stage larva, finally migrating to the intestine again to become mature.

These worms are accordingly pathogenic both as adults and as larvæ.

The Cylicostomes

The large number of smaller forms, once grouped in a single species, *Cylicostomum tetracanthum*, and now placed in several different genera, occur in the cæcum and large intestine of horses. With a single exception, *Triodontophorus tenuicollis*, they appear to live on digested food, ciliates and smaller nematodes, but their presence causes a degeneration of the

* Received for publication September 24th.

mucous membrane. *T. tenuicollis* causes the formation of specific abscesses on the wall of the colon.

The life cycle of these species is similar to that of Strongylus, but the fourth stage is passed in the mucosa or sub-mucosa of the large intestine—except in the case of Triodontophorus, which appears to develop in the lumen of the gut.

The demonstration on this bench illustrates *some* of the commoner species found in this country.

The common species of cylicostomes in Britain are:—*Trichonema longibursatum, T. calicatum, T. minutum, T. insigne, T. nassatum, T. catinatum, T. goldi, T. pateratum*, and *Triodontophorus tenuicollis.*

Luncheon was taken in the O.T.C. Common Room at 1 p.m.

Business Matters

At 2.30 p.m. the meeting was resumed with Professor Mitchell in the chair.

The minutes of the previous meeting were taken as read and signed.

Resignation.—A letter of resignation from membership was read from Mr. J. Reid, Assistant Veterinary Inspector, Cumberland, and the resignation was accepted with regret.

Election of Members.—On the motion of Professor Linton, seconded by H. M. Wilson, Mr. W. H. Baird, Dalkeith, and Mr. W. D. Macrae, Assistant Veterinary Inspector, Midlothian, were elected.

The President nominated Mr. A. W. Taylor, Royal (Dick) Veterinary College, and Professor Linton seconded the nomination.

Arrangements for Next Meeting.—The Secretary reported that the Council had decided to recommend that Mr. D. Cameron, Ministry of Agriculture and Fisheries, Edinburgh, be asked to give a paper at a meeting to be held in the Royal (Dick) Veterinary College in October. The title of the paper was not given, but it was suggested that the paper should relate to the Diseases of Animals Acts. This was agreed to and Mr. Cameron thanked the meeting for the honour it had done him in asking him to prepare a paper and agreed to do so. There being no other business, the President called on Mr. J. E. Wilson to present his paper and demonstration on Fowl Pox.

FOWL POX VACCINATION

Mr. J. E. Wilson, B.Sc., M.R.C.V.S., gave the following paper on the above subject:—

Before demonstrating the method of vaccination against fowl pox, it might be as well briefly to run over the salient features of the disease.

This disease was known formerly by many different names, including diphtheria, roup, canker ," pip," contagious epithelioma, catarrh, etc., but now these should not be used, as the conditions to which they were applied are merely different manifestations of one disease.

Fowl pox, which is caused by a filter-passing virus, usually occurs in one of three forms, or a combination of these:—

(1) Cheesy yellow adherent membranous growths in the mouth. Sometimes this material is found in the larynx and trachea, causing death by asphyxia.

(2) The occurrence of yellow wart-like growths on the comb, wattles, eyelids and occasionally on other parts of the body.

(3) No lesion may be present in the mouth or on the comb, etc., but a watery discharge is noticed from the eyes and nostrils. Later this discharge becomes purulent and viscid and by blocking the nasal passages may collect in the infra-orbital sinus causing a large swelling such as can be seen in the specimens shown.

Infection usually occurs by the virus getting entrance into small abrasions in the mouth and on the comb, etc. The incubation period varies with the virulence of the virus and local conditions which prevail, but is generally from three to fourteen days.

Methods of Control

When a case of fowl pox occurs it is desirable to handle all the birds and immediately slaughter badly affected cases. If this is done at once the attack may be checked before a large percentage of the birds are affected. Thorough disinfection must be carried out. Droppings, litter, etc., should be burned; the walls, perches, etc., should be scrubbed with hot water containing caustic soda and the whole house then sprayed with a reliable disinfectant. The runs should be limed and if practicable ploughed and left fallow.

The healthy birds should then be vaccinated and care should be taken that they are not exposed to infection for at least fourteen days. Attendants should disinfect boots and the usual precautions should be taken. All new birds should be isolated before introducing into the general flock.

Method of Preparation of the Vaccine

The vaccine issued by this department is similar to that prepared by the Ministry of Agriculture and Fisheries.

The feathers are plucked from the breasts of pigeons which are then infected by painting with a suspension of pigeon pox material and then scarified.

Scabs develop over the scarified areas in about seven to ten days. The pigeons are then killed, the scabs scraped off and dried over calcium chloride for a period of three to five days. The scabs are then finally ground up and the resultant powder is stored in appropriate doses in sealed tubes till required for issue.

The vaccine is supplied ready for use as a 1 per cent. suspension in 80 per cent. glycerine

in normal saline. It should be used on receipt or as soon thereafter as practicable.

Method of Vaccination

Each bird should be examined before vaccination and only the apparently healthy birds vaccinated. Diseased birds should be put aside as if such birds were done the disease might be spread through the entire flock.

About 12 to 15 feathers are plucked out from the skin over the front of the thigh about an inch above the hock joint. The vaccine is painted over the stripped area by means of the brush supplied and then the area is lightly scarified. The skin should become red, but blood should not be drawn as this tends to wash away the vaccine. About a week later the feather follicles show swelling and reddening with the appearance of a scab. This eruption persists for a day or so and then disappears. This indicates that the vaccine has "taken."

The vaccine sometimes does not "take" in every bird in the flock. This may be due to faulty technique in application, or the birds may have acquired some degree of immunity following a natural outbreak.

Disappointing results are sometimes cited but in many cases these are due not so much to the vaccine but to the condition the birds are affected with not being fowl pox but other contagious conditions of the mouth, throat and eyes.

Discussion

Professor Linton thanked Mr. Wilson for his paper and remarked that it was a very good thing that subjects relating to poultry diseases should be discussed at these meetings. He was afraid that there was a tendency for work on poultry diseases to pass from the hands of members of the Veterinary Profession and it was therefore most essential that this really important branch of our work should receive attention.

Professor Mitchell spoke of the disease from the clinical aspect and thought it was very necessary that veterinary students should make themselves familiar with the manifestations of disease in poultry.

Mr. J. Taylor asked if any treatment was useful; he had had experience of the use of sulphocarbonate of soda.

Mr. H. M. Wilson asked if the disease was transmissible to other birds.

Mr. D. Cameron asked if the pigeon became affected with fowl pox or if pigeon pox was a distinct disease.

The Reply

Mr. Wilson replied to Mr. Taylor's question with regard to treatment, that while some treatment might be useful it had been found that the vaccination was the most efficacious means of control, although it had no curative properties. The birds which might become affected were geese, ducks (seldom), guinea fowl, and turkeys. Pigeons were very resistant to infection with fowl pox virus and while fowls normally did not contract infection when exposed to pigeon pox virus, the virulence of the latter virus was exalted by passage through fowls and ultimately becomes indistinguishable from fowl pox virus.

Votes of Thanks.—Professor Linton moved a vote of thanks to all those who had read papers, given demonstrations, or presented cases of interest. A vote of thanks to the President terminated the meeting.

J. N. Ritchie, *Hon. Secretary.*

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MID-WEST AND SOUTH WALES DIVISION

SUMMER MEETING AT SHINFIELD, READING

A very instructive and interesting programme was carried out on the occasion of the Summer Meeting of this Division, when, by kind invitation of Mr. Mackintosh, a most enjoyable visit was paid to the National Institute of Research in Dairying, Shinfield, Reading. The members met at Reading Station at 2.45 p.m. and proceeded to the Institution at Shinfield, where they were received by Mr. Mackintosh. An informative tour was then made of the different sections of the Institution, where several useful discussions took place.

The company were now entertained to tea, this refreshing interlude preceding what may be described as the chief feature of the visit. This was a detailed inspection of the splendidly constructed model cowsheds and dairies, and the party were greatly impressed by the unexcelled facilities provided for the production of Grade A (T.T.) milk.

A most enjoyable afternoon was brought to a close by the according of a hearty vote of thanks to Mr. Mackintosh and his staff for entertaining the Division.

The following were present:—Messrs. J. R. Hewer, H. C. Wilkins, S. V. Golledge, C. R. Golledge, J. Powell, R. Moore, T. Margarson, G. H. Thomas, J. W. Baxter, W. A. Austin, J. Fox, J. R. Barker, E. C. Bovett, Wm. R. Watson and Lieut.-Colonel Jelbart. Mr. W. P. Moss was present as a visitor.

Apologies for absence were received from:—Principal Hobday, Colonel G. Henson, Messrs.: R. W. Hall, W. Hall-Masheter, E. P. Evans, J. Eardley, J. C. Coleman, Dr. Colston Williams, Messrs. J. J. Aveston, F. Tonar, L. A. Wilson, A. O. McDowell, J. P. Railton, Captain Gallie and Mr. J. T. Brain.

C. E. Perry, *Hon. Secretary.*

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MUNSTER VETERINARY INSPECTORS' ASSOCIATION

ANNUAL MEETING AT CORK

The annual meeting of the Munster Veterinary Inspectors' Association was held at the Windsor Hotel, Cork, on Saturday, October 1st, 1932,

Mr. T. I. Alexander, Kinsale (President) occupying the chair.

There were also present Messrs. J. A. McMenamin (Dept. of Agriculture), C. O. Driscoll (Bandon), J. J. Condon (Tipperary), W. O'Callaghan (Charleville), Captain P. W. Creagh (Fermoy), T. R. Mulcahy (Clonmel), M. F. O'Sullivan (Midleton), S. Hyde, (Cork), T. O'Leary (Macroom), R. P. Byrne (Dungarvan), D. Brophy (Clonakilty), A. J. McDonald (Kildorrery), D. M. Barry (Mallow), T. J. Walsh (Youghal) and C. P. Hynes (Lismore) (Hon. Secretary).

The Chairman explained the objects of the meeting, and welcomed some veterinary surgeons who were present and who were not members of the Association. As their business and prosperity depended on the prosperity of the agricultural community, it was very desirable that they should see where they stood. Their first business was to receive reports from members with regard to their experience of the working of the Meat Inspection Orders and the inadequacy of the present salaries in relation to the work entailed. The last meeting held was an extraordinary one, the reason for convening it being the advertisement which appeared in the Press inviting applicants for meat inspectorships in Kinsale, Bandon, Schull, Castletownbere and Clonakilty. The salaries offered were: Kinsale, £20; Bandon, £40; Castletownbere, £20; Clonakilty, £25. On the face of it, these salaries were ridiculous, and showed, on the part of those who offered them, an utter want of appreciation and understanding of the duties which the inspection entailed. As a result, it was decided at the extraordinary meeting that no member of the Royal College of Veterinary Surgeons should apply for any of these positions.

A number of members gave their views and experiences concerning the working of the Meat Inspection Orders, and, after discussion, the following resolution was unanimously passed:—

"That owing to the multiplicity of slaughterhouses and the impossibility of Veterinary Inspectors carrying out their duties at their present inadequate salaries, it is the unanimous opinion of this Association that in the case of urban or rural areas, where the bye-laws in connection with the inspection and stamping of meat are in force, a central abattoir or slaughterhouse should be established in these areas, and specific days and hours for slaughter arranged so that the Veterinary Inspector may be able to inspect all animals and meat at such place and time in an efficient manner."

It was decided to send copies of the resolution to the Minister for Local Government and the secretaries of the several county councils and clerks of boroughs and urban councils in Munster.

QUACK OPERATORS

Several members drew attention to work of a veterinary nature being carried out by unqualified individuals or quacks in several districts in the province.

Mr. Mulcahy, Clonmel, who is a member of the Irish Free State Veterinary Council, said that already there had been some prosecutions of unqualified men for operations and severe fines imposed on them. If any case was brought before the Council, if there was sufficient evidence to convict, prosecutions would be immediately instituted against these individuals. He assured the Association that the Council would be only too happy to prosecute in such cases, but there must be substantial evidence.

OFFICERS RE-ELECTED

On the motion of Mr. O'Driscoll, seconded by Mr. Brophy, the outgoing Chairman, Secretary and Treasurer of the Association were unanimously re-elected.

It was decided to hold two meetings of the Association, one in July and one in November.

The Treasurer (Captain Creagh) having submitted the statement of accounts, the Chairman reported that the financial position of the Association was very satisfactory, and expressed the hope that it would continue to be so.

On the motion of the Chairman, the meeting expressed sympathy with Mr. T. R. Mulcahy, Clonmel, in his recent double bereavement.

Mr. Hynes and other members joined in the expression of sympathy, which was suitably acknowledged by Mr. Mulcahy.

FOOT-AND-MOUTH MENACE TO BIG GAME PARK

The Brussels Correspondent of the *Morning Post* states that Prince Leopold, presiding over the yearly assembly of the National Albert Park Commission, recorded that the King had visited the park, situated in the district of Kivu, Belgian Congo, and had extended his protection for the animals and plants there.

The Prince added that foot-and-mouth disease was raging at present in the region of the Albert Park.

Professor Straelen, Vice-Chairman of the Committee, explained that up to now foot-and-mouth disease had only attacked buffaloes. Antelopes had been spared, but the menace was common to the cattle owned by the natives.

Baron de Cartier de Marchienne, Belgian Ambassador in London, delivered a speech in the name of British delegates. He insisted on the necessity of a careful and complete study of foot-and-mouth disease, and said that advice given by Sir Peter Chalmers Mitchell about such a study in big reserves had been followed by several nations.

Baron de Cartier de Marchienne emphasised the necessity of protecting the birds of the Belgian Congo and the principal migratory waterfowl.

XUM

From The Veterinarian

October, 1832.

THE NEW MEDICAL YEAR

(*Continued from Page* 1273.)

Advancing so rapidly and spreading so widely as every branch of knowledge and education is in this country, it behoves us to look narrowly "at home," and watch if our own house is kept in the same order and state of improvement as those of our neighbours. Unless we keep pace with them in knowledge, we shall retrograde twofold— ay, twofold in every other respect.

"Scientia est potentia."

To us indeed it is power—veritable power; the only front we can put on to look that man in the face who denounces us all as a race of "horse-doctors." No matter, however, whether we be horse-doctors or pig-doctors . . . let us call persons, as well as things by their right name, and look on him only as truly respectable whose knowledge amounts to power, and whose moral worth is such as "all men must approve of."

To enter, at the present day, on a residence in a country town, and find the physician above the apothecary, the rector above the curate, and the magistrate and banker, perhaps, above them all, is so truly ridiculous and disgusting, that a man of sound sense and independence can only measure his happiness by the distance he can keep out of such incongruous society. We know a locality, not a hundred miles from London, where, on the occasion of a subscription ball being got up, the general practitioner (a most respectable surgeon) was refused a ticket of admission because he was *considered* "to keep a shop": and so he did—a pharmacy, in which his assistant compounded his prescriptions. Another instance came to our knowledge, in which a rope was actually extended through the middle of the ball-room, in order to dissociate those who kept *no* shops from the unhallowed touch of the *profanum vulgus*. We wonder on which side of the said rope the V.S. would have found himself; probably on neither:—a *blacksmith's* forge must most indubitably have qualified him for no higher a berth than the sooty region of the coal-hole.

REDUCTION OF PIG BREEDS

The Earl of Radnor believes that if our pig industry is to be placed on a footing which will give a reasonable prospect of stability, as well as a profit to those who are able to produce economically and efficiently, the number of pig breeds must be reduced to four. This and several other suggestive views are expressed by his lordship in a special article which he contributes to the first reorganised number of *The Live Stock Journal*.

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STOCK MOTOR TRUCK SPEED

When a motor horsebox is used for the conveyance of cattle, instead of being allowed to travel at 30 miles per hour its speed is restricted to 20 miles per hour. This point was emphasised recently at a Lancashire Police Court when a farmer was summoned for driving a vehicle containing four cows at a speed exceeding 20 miles per hour. The defendant was fined 10s. The deputy clerk:—It is the law that if you are carrying horses you can do 30 miles an hour; if you are carrying cows you can only do 20 miles an hour.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

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DIARY OF EVENTS

Oct. 24th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.

Oct. 25th.—Meeting of the Derbyshire Division, N.V.M.A., at Derby.

Oct. 26th.—Section of Comparative Medicine of the Royal Society of Medicine: Opening Meeting of the 1932-1933 Session, 1, Wimpole Street, W.1.

Oct. 26th.—Meeting of the Lancashire Division, N.V.M.A., at Manchester.

Oct. 28th.—Meeting of the Yorkshire Division, N.V.M.A., at Leeds.

Nov. 1st.—**All changes of address for insertion in the 1933 Register to be reported to the Registrar, R.C.V.S.**

Nov. 3rd.—Annual Dinner-Dance of the Central Veterinary Society, Mayfair Hotel, Berkeley Street, W.

Nov. 4th.—R.A.V.C. Old Comrades Association Twelfth Annual Re-Union Dinner, Anderton's Hotel, Fleet Street, E.C.4.

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RETIREMENT OF ULSTER'S CHIEF VETERINARY OFFICER

North of Ireland V.M.A.'s Presentation to Mr. F. W. Emery

Advantage was taken of the retirement of Mr. F. W. Emery, O.B.E., F.R.C.V.S., from his position as Chief Veterinary Officer to the Government of Northern Ireland to present him with handsome gifts and to entertain him at dinner in the Grand Central Hotel, Belfast, on October 11th. Mr. J. Ewing Johnston, M.B.E., M.R.C.V.S., presided, and there was a large number of guests, including ladies.

The presentation took the form of a silver tray and silver tea and coffee service, suitably inscribed. The tray bears the signatures of all the subscribers.

The Chairman said that professionally in Mr. Emery they were obliged to part with a great leader, a respected colleague, and a true friend. While definitely regretting that, they were glad to see the silver lining to the cloud in that they would still have him with them as a social friend, and that they were privileged to show him in a small way how they appreciated his life's work amongst them. Without any reservation, they could see that Mr. Emery always gave them a lead worthy to be followed, but impossible to attain. (Hear, hear.)

Personally, he was conscious of having committed many professional errors, but he had yet to learn of one attributable to Mr. Emery. He was amongst the greatest assets their profession had had in their day, and the lofty standard he

set them would ever be an ambition to the youth and veteran in their ranks. It could be truly said that he never took an impulsive step, and when he gave a decision they knew that it could be followed with complete assurance. One of his many outstanding achievements was the mastery of a very critical outbreak of foot-and-mouth disease. (Hear, hear.)

Mr. Emery was leaving behind him a great record of important work well done, and, having placed his profession on a higher plane than it might otherwise have reached, he entered into an honoured retirement which they all hoped he might be long spared to enjoy. (Applause.) It only remained for him to extend on their behalf and on his own a most cordial welcome to Mr. Emery's successor, Mr. McAllan, of Aberdeen, who had come to Ulster with a high reputation. They confidently anticipated for him continued success, loyal colleagues, and a sympathetic Ministry, and they could assure him that he had come amongst the most warm-hearted people that he could meet anywhere. (Applause.)

Mr. J. Loughran, chairman of the committee, made the presentation and the address was read by Mr. J. J. Magowan, secretary of the committee.

Mr. Loughran said Mr. Emery was one of the small band of men who had carried the Association throughout its lean years, never losing faith in the benefits of the profession. He brought them within sight of the time, not far distant, when their Association would be ranked one of the strongest in the United Kingdom. (Applause.)

The Chairman proposed the toasts of their guests, Mr. and Mrs. Emery, the Right Hon. Sir Edward Archdale, D.L., M.P., and Captain the Right Hon. Herbert Dixon, D.L., M.P.

It was received with musical honours.

Sir Edward Archdale said he regretted very much Mr. Emery's departure. He greatly appreciated the good their retiring chief veterinary officer had done in Northern Ireland and he appreciated very much the feeling amongst the veterinary profession in the province. As Minister of Agriculture he was proud that they had been successful in obtaining the services of a man who would shed lustre upon the profession in Ulster and be a worthy successor to Mr. Emery. (Applause.)

Captain Dixon said he joined with every speaker in saying how sorry he was that Mr. Emery was leaving them.

Mr. Emery thanked Sir Edward Archdale and Captain Dixon for their kind remarks and also for the kindly thoughts which had prompted his colleagues to present him with beautiful gifts. He would always treasure these gifts and they would always be to him his most valued possessions.

The toast of "The Veterinary Profession" was proposed by Dr. Gordon, and replied to by Mr. J. McAllan.

Mr. T. A. Finch submitted the toast of "Our Visitors," which was cordially honoured, and Dr. Robertson responded.

The thanks of the company were conveyed to the Chairman by Mr. Govan and Mr. A. Munro.

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ARMY VETERINARY SERVICE

New Veterinary Director in India

The War Office announces that Colonel H. S. Mosley, D.S.O., has been appointed Director of Veterinary Services, Army Headquarters, India, with effect from November 28, 1932.

Colonel Mosley, who goes to India as Director of Veterinary Services in succession to Brigadier Augustus J. Williams, D.S.O., whose tenure is expiring, was employed during the South African War as a civil veterinary surgeon and joined the Regular Service in 1902. His Staff appointments have been Assistant Director in France and Italy, veterinary officer at the Cavalry School, Deputy Director in India, and Commandant of the Royal Army Veterinary School and School of Farriery at Aldershot, until promoted colonel in 1929, when he became Deputy Director at Aldershot.

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London Gazette—War Office—Regular Army

Oct. 14th.—The following Lts. (on prob.) are confirmed in their appts.:—J. R. Stewart, P. A. Reeves.

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R.C.V.S. OBITUARY

McCrea, Charles Edward, "Airedale," Walton Road, Clacton-on-Sea. Graduated Dublin, December 12th, 1917; died October 15th, 1932, aged 45 years.

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Nye; on Saturday, October 15th, at 19, The Avenue, Loughton, Essex, Mabel, dearly beloved wife of Sydney Herbert Nye, F.R.C.V.S.

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Dangerous Drugs Regulations

Additional Preparations Exempted

The Secretary of State for Home Affairs announces the introduction of new provisional rules (which come into operation forthwith) amending the Dangerous Drugs (Consolidation) Regulations of 1928. These rules have been drawn up to meet the situation created by the publication of the new edition of the *British Pharmacopœia,* which indicates a revision of the description of the preparations exempted from the Dangerous Drugs (Consolidation) Regulations. The opportunity has also been taken to exempt mixtures containing Dover's powders, and certain liniments, ointments, and plasters, all of which have been found incapable of causing addiction, and from which, in practice, a dangerous drug cannot be recovered. Under the new rules the following preparations are exempted from the provisions of the Dangerous Drugs Acts (those preparations which are exempted for the first time are indicated by an asterisk):—

Cereoli Iodoformi et Morphinæ, *British Pharmaceutical Codex.*
Emp. Opii, *British Pharmacopœia,* 1898.
Lin. Opii, *B.P.* 1914.
Lin. Opii Ammon., *B.P.C.*
Pasta Arsenicalis, *B.P.C.*
Pil. Hydrarg. c. Opio, *B.P.C.*
Pil. Ipecac. c. Scilla, *B.P.* 1914.
Pil. Plumbi c. Opio, *B.P.* 1914.
Pil. Digitalis et Opii Co., *B.P.C.*
Pil. Hydrarg c. Cret. et Opii, *B.P.C.*
Pulv. Cretæ Aromat. c. Opio, *B.P.* 1932.
Pulv. Ipecac. Co., *B.P.* 1914.
*Pulv. Ipecac. et Opii, *B.P.* 1932.
Pulv. Kino Co., *B.P.* 1914.
Suppos. Plumbi Co., *B.P.* 1914
*Suppos. Plumbi c. Opio, *B.P.* 1932.
Tablettæ Plumbi c. Opio, *B.P.C.*
Ung. Gallæ c. Opio, *B.P.* 1914.
Ung. Gallæ Co., *B.P.C.*

Elixir Diamorphinæ et Terpini c. Apomorphina, *B.P.C.*
Linctus Diamorphinæ Camphoratus, *B.P.C.*
Linctus Diamorphinæ c. Ipecacuanha, *B.P.C.*
Linctus Diamorphinæ et Scillæ, *B.P.C.*
Linctus Diamorphinæ et Thymi, *B.P.C.*

*Mixtures of Emp. Opii, *B.P.* 1898, with other plasters of the *B.P.* 1914 and 1932, and of the *B.P.C.*

*Mixtures of Lin. Opii. *B.P.* 1914, with other liniments of the *B.P.* 1914 and 1932, and of the *B.P.C.*

*Mixtures of Lin. Opii Ammon., *B.P.C.*, with other liniments of the *B.P.*, 1914 and 1932, and of the *B.P.C.*

*Mixtures of Pulv. Ipecac. Co., *B.P.*, 1914, and of Pulv. Ipecac. et Opii, *B.P.* 1932, with any of the following: Hydrarg. c. Cret., *B.P.* 1914 and 1932; Acetylsalicylic Acid; Phenacetin; Quinine and its Salts; Sodium Bicarbonate.

*Mixtures of Ung. Gallæ c. Opii, *B.P.* 1914, and of Ung. Gallæ Co., *B.P.C.*, with other ointments and plasters of the *B.P.* 1914 and 1932, and of the *B.P.C.*

The Secretary of State proposes, after the expiration of forty days from September 28th, to make Regulations for amending the Dangerous Drugs (Consolidation) Regulations, 1928. The Regulations will be in the terms of the Provisional Rules, which will remain in force in the meantime.

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VETERINARY RESEARCH CLUB

At the annual general meeting of the Veterinary Research Club, held at the London School of Hygiene and Tropical Medicine in September, the following officers were elected:—

President. — Mr. A. W. Stableforth, M.Sc., M.R.C.V.S., D.V.S.M.

Vice-Presidents.—Messrs. I. A. Galloway and R. Lovell.

Council.—Major T. Dalling and Major G. W. Dunkin, together with the remaining officers.

Hon. Secretary and Treasurer.—Dr. R. W. Wooldridge.

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R.V.C. MEDICAL ASSOCIATION

The successful entrants for the various competitions held in connection with the Royal Veterinary College Medical Association for the session 1931-32 were as follows:—

Awards for the best papers delivered to the Association for the Session.—(1) Mr. Michael: "Some General Remarks on Sheep"; (2) Mr. White: "Physiology of the Ruminant Stomach"; (3) Mr. Halford: "Internal Secretions."

Ageing Competition.—(1) Mr. Michael, (2) Mr. Clabby, (3) Mr. Pande.

Horse Management.—(1) Mr. C. Poles, (2) Mr. F. T. Day, (3) Mr. D. L. Hughes.

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R.C.V.S. WAR MEMORIAL LIBRARY

The following publications have recently been acquired by the Library:—

Reports. — Blackburn, 1931; Bolton, 1931; Ceylon, 1931; Cyprus, 1931; Edinburgh, 1931; Northern Rhodesia, 1931; Straits Settlements, 1931.

Volumes.—Romanis and Mitchiner: "Science and Practice of Surgery," two vols.; McDonagh: "Nature of Disease," two vols.; Milks: "Veterinary Pharmacology" (second edition); Gaiger and Davies: "Veterinary Pathology and Bacteriology"; Ministry of Agriculture: "Fertility in Animal Breeding."

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BOVINE TUBERCULOSIS INSURANCE

At a recent meeting of the General Council of the Institute of Auctioneers and Appraisers of Scotland, a letter was read from the National Farmer's Union of Scotland regarding the action of certain auction companies in raising their rates for insurance against tuberculosis in fat cattle. The letter stated:—

"As everyone knows, agriculture at the present time is in a serious condition, and my committee submit that any increase in the rates is not justified. They suggest that your Council take the matter up with a view to reverting to the previous charges."

The reply to the Farmers' Union stated that the subject had been under consideration of the General Council with a view to securing uniform rates. That, however, had been found impracticable because conditions in different districts vary considerably, and the question was remitted to the various district councils with a view to securing as far as possible uniform charges in their respective districts.

It was agreed to suggest to the Farmers' Union that the insurance of stock against condemnation on account of tuberculosis be taken over by the Union or by the National Farmers' Union Mutual Insurance Society, Limited.

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NATIONAL PONY SOCIETY

The next London show of the National Pony Society will be held at the Royal Agricultural Hall on March 3 and 4, 1933, and will comprise 48 classes, including sections for all breeds of ponies. The classes for two- and three-year-old entire polo-bred colts will be amalgamated, and a class for polo-bred hacks that have not won a prize before the close of entries for the show, to be ridden by a lady sidesaddle, will be included. It has been resolved to continue the section for Dartmoor ponies in the National Pony Stud Book. During the past show season the society awarded six gold, 17 silver and four bronze medals with £10 in prizes for polo ponies at affiliated country shows, while 15 silver medals and £40 12s. in cash premiums were awarded to mountain and moorland ponies. Awards will again be made during 1933.

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KEEP THE CAT QUIET

Dr. H. K. Miller, Mamaroneck, New York, sagely advised those present at the A.V.M.A. sectional meeting on small animals at Atlanta, that the best method for restraining cats for any purpose where this is possible, is to employ no restraint at all, but instead, to gain the cat's confidence by handling it gently and quietly, away from all that might excite the patient. Some practitioners begin by cutting the cat's nails and then apply restraint in some suitable form. It was quite evident that most of the practitioners present did not exactly fancy the handling of cats.

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The Editor acknowledges the receipt of the following:—

Report of a meeting of the Midland Counties Division, N.V.M.A., from Mr. H. W. Dawes, Hon. Secretary. Communications from Professor W. M. Deen (Bombay), Mr. G. A. Tomlin (Hasketon).